NATIONAL PETROLEUM NEWS

Piling Up of Gasoline Stocks Is Seen Unless Refiners Reduce Runs

TULSA, Nov. 5

By J. C. Chatfield
N. P. N. STAFF WRITER

REFINERS in the Mid-Continent field reduced their runs of crude oil to stills substantially during October, according to the weekly refinery reports gathered by NATIONAL PETROLEUM NEWS.

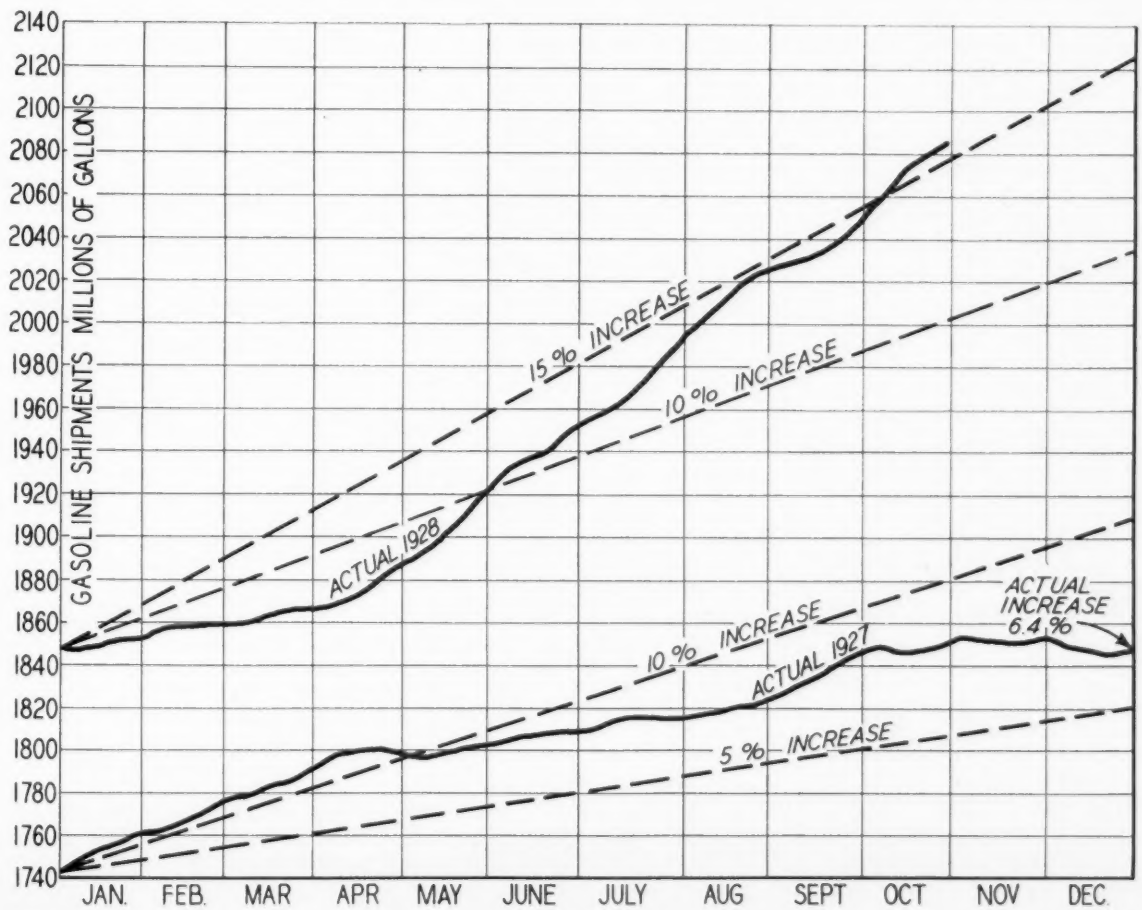
In the four weeks ended October 26, the 82 refiners covered by the reports charged an average of 326,000 barrels of crude per day to their stills, as compared with 346,000 barrels per day in September and about the same amount in August.

All indications are that an even more substantial reduction in the rate of crude runs will be necessary the next two months if refiners keep their stocks of gasoline from building up rapidly. At the present rate of operation gasoline stocks at the 82 plants would double in the next nine weeks if crude runs are maintained at their present level and shipments continue to exceed those made a year ago by the same per cent they have been exceeding last year's sales during the first 43 weeks of the year.

In the first 43 weeks of the year reporting plants shipped 1,787,625,000 gallons of gasoline, as compared with 1,551,115,000 gallons up to the end of October last year. This is an increase of 15.25 per cent. Table No. 1 shows cumulative gasoline shipments from reporting plants by weeks for 1928 and 1927, with the percentage of change.

This table shows that business, during the early months of the year, did not exceed that of 1927 by a very large margin, but that the margin has been increasing from week to week until the past few weeks, during which it has been nearly stationary. At the end of the first 26 weeks shipments were 11.85 per cent greater than last year. At the end of August the increase had risen to 14.57 per cent and at the end of September it stood at 14.34 per cent.

Assuming that the 15 per cent increase in gasoline shipments is maintained during the remaining nine



weeks of the year, the 82 reporting plants may expect to move 338,325,000 gallons of gasoline, an average of 37,591,000 gallons per week. This would bring total shipments for the year to 2,125,950,000 gallons as compared with 1,848,652,000 gallons in 1927.

At the present rate of manufacture, producing around 48 per cent gasoline from 320,000 barrels of crude oil charged to stills per day, the 82 plants would produce 406,854,000 gallons of gasoline. This would exceed the expected shipments by 68,529,000 gallons and bring stocks at the close of the year to 124,807,000 gallons.

While gasoline stocks in excess of 124,000,000 gallons have been held in the past by substantially the same group of manufacturers, that volume of motor fuel would be considered too large now that the industry has accepted a policy of manufacturing on a more or less hand-to-mouth basis. On Dec. 30, 1927, the group of reporting plants held 80,631,000 gallons of gasoline on hand. Peak stocks for this year were 102,000,000 gallons late in April, just before the motoring season began. In 1927 peak stocks were 108,000,000 gallons at the last of March.

In 1927 reporting refiners increased their stocks of gasoline 17,000,000 gallons during November and December. Most of the increase was in December.

In order to produce only as much gasoline in the next nine weeks as may be expected to be shipped, crude runs would have to be reduced approximately 40,000 barrels daily average to around 280,000 barrels per day. A cut in runs of half that amount probably would keep stocks at the close of the year well below 100,000,000 gallons and prevent distress.

It is entirely possible that shipments of gasoline from the Mid-Continent may not continue to exceed those of last year by 15 per cent, particularly if weather conditions should become very bad. In 1927 the trend of shipments was virtually level, as graphically compared with 1926, during the last two months of the year.

To illustrate the rate of increase in 1928 in gasoline shipments from the Mid-Continent, the writer has prepared Figure 1, which is a chart showing cumulative actual shipments of gasoline from plants reporting to this publication for 52 weeks in 1927 and for 1928 to Oct. 26. Compared with the actual lines of gasoline shipments are dotted lines indicating annual rates of increase at various percentages. The 1927 actual line is compared with an annual rate of 5 per cent and 10 per cent while the 1928 line is compared with rates of increase at 10 per cent and 15 per cent.

This chart shows a vast difference in the rate of increase in gasoline shipments between 1927 and 1928. Last year the rate of increase was heavy in the early months, level in midsummer and level in the early winter. This year the increase line lagged until the first of May, but since has risen at almost a steady rate, passing the line of 10 per cent increase at the end of May, and the line of 15 per cent increase early in October.

Shipments for the first 43 weeks of the year already are near the 1927 total, so that a substantial increase in business is assured. The line of actual shipments could, however, drop below 15 per cent if demand should drop appreciably the next few weeks. Last year the actual increase for the year was only 6.4 per cent. The last few weeks of 1927 saw a decided fall in the percentage.

Figure 1—Graph illustrating the annual rate of increase in gasoline shipments from 82 refineries in the Mid-Continent field which report weekly to NATIONAL PETROLEUM NEWS. Solid curves represent actual gasoline shipments. With this line of actual trend are given broken lines indicating rates of increase at various fixed percentages, for purposes of comparison.

Table No. 1 Cumulative Shipments of Gasoline from 82 Refineries in the Mid-Continent for the First 43 Weeks of 1928, Compared with the Same Period in 1927. Figures in Thousands of Gallons.

Week	1927	1928	Per cent increase
1	30,364	30,488	0.41
2	64,924	64,115	*1.25
3	95,893	96,780	0.92
4	124,348	128,755	3.54
5	154,562	159,791	3.38
6	183,678	193,530	5.36
7	215,320	224,975	4.48
8	247,196	258,276	4.48
9	281,012	292,538	4.10
10	313,150	325,510	3.95
11	346,222	361,714	4.47
12	379,694	398,521	4.96
13	419,406	437,133	4.23
14	454,815	475,060	4.45
15	488,250	512,135	4.89
16	521 233	553,303	6.15
17	557,516	596,116	6.92
18	592,968	636,912	7.56
19	631,551	682,182	8.02
20	668,778	730,856	9.28
21	706,565	779,440	10.31
22	742,663	825,590	11.17
23	780,436	869,659	11.43
24	819,441	911,581	11.24
25	856,276	958,207	11.90
26	895,792	1,001,960	11.85
27	934,290	1,045,171	11.86
28	974,972	1,094,043	12.21
29	1,014,564	1,144,848	12.84
30	1,055,279	1,193,671	13.11
31	1,092,274	1,244,536	13.94
32	1,130,981	1,291,707	14.21
33	1,168,902	1,338,741	14.53
34	1,207,830	1,383,811	14.57
35	1,251,324	1,431,173	14.37
36	1,293,220	1,475,040	14.06
37	1,336,357	1,521,254	13.84
38	1,376,724	1,567,593	13.76
39	1,411,833	1,614,279	14.34
40	1,446,541	1,658,221	14.63
41	1,477,643	1,702,340	15.21
42	1,513,643	1,744,024	15.22
43	1,551,115	1,787,625	15.25

*Decrease.

THE family of the late C. D. Chamberlin, former general counsel of the National Petroleum Association, who died two weeks ago, wishes to thank all the Judge's many friends for the flowers and messages which they have received. Because the undertaker lost many of the cards which came with the flowers, the family is unable to thank all the friends individually and asked that they accept this message in lieu of a personal one.

Richfield Reports 20% Increase in Sales

CLEVELAND, Nov. 5.—Total sales of Richfield Oil Co. in the first nine months of 1928 were $35,000,000, an increase of more than 20 per cent over sales in the corresponding time of 1927.

Gasoline sales amounted to 81,810,276 gallons in the third quarter, an increase of 35,215,541 gallons over gasoline sales in the third quarter of 1927. These figures are taken from the report of James A. Talbot, president.

Refineries have been kept running near capacity, Mr. Talbot reported, to keep production on a level with the growing sales.

In the first nine months of this year crude oil and casinghead gasoline production amounted to 8,180,000 barrels, an increase of 3,896,000 barrels over combined production in the first nine months of 1927.

From Jan. 1 to Sept. 30 the company completed 25 wells and drilling was proceeding on 36 wells Sept. 30.

Sept. 30 approximately 75 per cent of the B stock of Pan American Western Petroleum Co. had been exchanged for Richfield stock under the consolidation plan announced earlier this year.

N. Y. Transit to Sell Unused Assets

NEW YORK, Nov. 5.—Stockholders of the New York Transit Co. have authorized directors to dispose of unused assets of the company. These assets consist mostly of the company's pipe line from the vicinity of Olean, N. Y., to the Atlantic seaboard. A distribution of assets may be made of funds as they become available, it is said.

LOS ANGELES, Nov. 5.—Rio Grande Barnsdall Luton Bell No. 2, near the discovery well at Elwood in Santa Barbara county, was completed Nov. 3 and made 3600 barrels of 38.5 gravity oil in addition to 1,750,000 cubic feet of gas. Doty No. 1, in same field, is due for completion and Elwood Acres No. 1, slightly more than mile from discovery well, has penetrated a rich body of oil sand and is scheduled for completion in a few days.

Oil Marketing Code To Be Presented At Institute Annual Meeting

NEW YORK, Nov. 2

PRESENTATION, for general discussion, of the complete text of the "Code of Practices for Marketing Refined Petroleum Products," which has been drawn up by American Petroleum Institute committees the past few months.

Group sessions on crude production, running both morning and afternoon for two days, where papers on gas conservation and stabilization through restrictive production will be presented, and new production methods will be brought out.

Similar group sessions devoted to new developments in all phases of refinery operation.

An address at the annual dinner by Sir John Cadman, chairman, Anglo-Persian Oil Co., England, on "Petroleum Problems outside the United States"; and the presentation of a paper on some phase of refinery operations, at a group session, by A. E. Dunstan, of the same company.

These are the features of the program just announced for the ninth annual meeting of the American Petroleum Institute, Dec. 3, 4, 5 and 6 at the Stevens Hotel, Chicago.

The proposed code of marketing practices is to be first made public at a group session the afternoon of Dec. 5, to which all oil men engaged in the marketing of petroleum products are invited. The code will be discussed and perhaps put up to the meeting for ratification.

Some months ago the Institute appointed regional committees, which made recommendations as to the nature of the code of trade practices, after meetings to consider the needs of their own territories. These recommendations were submitted to the general committee, made up of the chairmen of the regional committees. The general committee, of which Roy B. Jones, Panhandle Refining Co., is chairman, drew up the general code.

The code will be presented to the Institute board of directors Dec. 3.

The new division of the Institute, that on development and production engineering, will hold what amounts to its first annual meeting the afternoon of Dec. 6. This division was organized at the general institute meeting a year ago. John R. Suman, Humble Oil & Refining Co., chairman, will preside. New national officers will be elected. The committee on drilling practice and that on production practice will report.

There will be only two general gatherings at the Institute meeting. One will be held the afternoon of Dec. 4. President E. W. Clark, Union Oil Co. of California, will present his annual address. W. G. Skelly, Skelly Oil Co., Tulsa, will present a paper on "Value of Standardized Oil Field Equipment." Craig B. Hazlewood, Union Trust Co., Chicago, will talk on "The Banker's Interest in the Petroleum Industry."

The second general meeting will be the annual banquet the evening of Dec. 6. Besides Sir John Cadman, the other speaker will be Gurney E. Newlin, president of the American Bar Association.

Following the usual custom, the board of councillors of the Institute, consisting of several hundred oil men, will meet the morning of Dec. 4 to nominate candidates for election to the Institute board of directors. The councillors will report at the general session of all Institute members the same afternoon.

Many Institute committees working on various subjects, including several of the oil field equipment standardization sub-committees, will use the occasion of the general Institute meeting to call their committee members into session.

The programs for the various group sessions are as follows:

A.P.I. Program for Refining and Production Sessions

10 a. m. Dec. 5

Group 1—General Topic: Production (Grand Ball Room)

Chairman: W. S. Farish, Humble Oil & Refining Co.

"Production and Proration in the Texas-Arkansas-Louisiana Area," J. Elmer Thomas, Fort Worth, Tex.

"Gas Conservation and Production in California," M. E. Lombardi, Standard Oil Co. of California.

"The Mid-Continent Production Situation," Ray M. Collins, Echo Oil Co.

"Production Developments in Rocky Mountain District," S. H. Keoughan, Continental Oil Co.

Group 2—General Topic: Refinery Technology (North Ball Room)

Chairman: P. M. Miskell, Empire Refineries, Inc.

"Utilization of Heavy Oil Acid Sludge," H. G. Osborn and L. L. Davis, Marland Refining Co.

"Process Conversion of Cylinder Stock Sludge to Plant Fuel Oils," L. W. Barbour, Pierce Petroleum Corp.

"Control of Refinery Odors," David E. Day, Richfield Oil Co.

"Refinery Evaporation Conservation," E. C. Herthel and William Mendius, Sinclair Refining Co.

"Burning of Clay in Multiple Hearth Furnace," MacLean Houston, United Refining Co.

"Use of Some Catalytic Agents in Revivifying Used Filter Clay," F. R. Lang, Roxana Petroleum Corp.

Group 3—General Topic: Automotive Transportation (South Ball Room)

Chairman: D. E. Buchanan, Chestnut & Smith Corp.

Work of Automotive Committee in 1928.

"The Maintenance of Automotive Equipment," H. W. Kizer, The Texas Co.

"Motor Vehicle Cost Accounting and Its Relationship to Economical Fleet Operation," G. W. Gwynne, Continental Oil Co.

"Transport Hauling on the Pacific Coast," F. H. Asbury, Asbury Transportation Co.

2 p. m. Dec. 5

Group 1—General Topic: Development and Production Engineering (South Ball Room)

Chairman: Thomas A. O'Donnell.

"Unit Operation of Oil Fields," J. O. Lewis, Dunn & Lewis.

"Function and Application of Gages to Oil Country Material," B. S. Terry, Pratt & Whitney.

"Pumping Experiments," F. W. Lake, Union Oil Co. of California.

"Care and Use of Sucker Rods." (Speaker to be announced.)

Group 2—General Topic: Refinery Technology: Pipe Still Distillation of Lubricating Oils. (North Ball Room)

Chairman: John L. Gray, Shaffer Oil & Refining Co.

A discussion of the relative advantages of vacuum as compared with the use of steam at atmospheric pressure.

"Reducing 2500 Barrels of Pennsylvania Crude Per Day to Cylinder Stock Bottoms on Single Pass Pipe Still," A. C. Vobach, Sinclair Refining Co.

"Applications of the Pipe Still to Vacuum Distillation," A. E. Harnsberger, Pure Oil Co.

"A Summary of the Relative Advantages of Pipe Still Distillation under Vacuum and with Steam at Atmospheric Pressure," W. A. Peters, E. B. Badger and Sons Co.

"Equilibrium Vaporization of Oils and Carrying Effect of Light Ends," R. F. Piroomov and G. A. Beiswenger, Standard Oil Co. of New Jersey.

Group 3—General Topic: A Code of Practices for Marketing Refined Petroleum Products (Grand Ball Room)

(Details given in text of article)

8 p. m. Dec. 5

Group 2—General Topic: Refinery Technology (North Ball Room)

Chairman: (To be announced)

"Developments in Refinery Technology," E. W. Isom, chairman, general committee on refinery technology.

Paper (subject to be announced), A. E. Dunstan, Anglo-Persian Oil Co.

"Topping and Cracking of West Texas Crudes and Treatment of Distillates from these Crudes," H. H. Hewetson, Beacon Oil Co.

"The Refining of Pecos Crude," Sydney Born, Transcontinental Oil Co.

"The Relation of the Liquefied Petroleum Gas Industry to the Oil Industry," R. C. Alden, Phillips Petroleum Co.

10 a. m. Dec. 6

Group 1—General Topic: Development and Production Engineering (Grand Ball Room)

Chairman: J. Edgar Pew, Sun Oil Co.

"Tubular Goods Used in Drilling," Melbert Schwarz, Rio Bravo Oil Co.

"Choice of Equipment for Exploration Wells," Wendell M. Jones, Petroleum Equipment Co.

"Handling Flowing Wells in the Mid-Continent Fields," J. R. McWilliam, Skelly Oil Co.

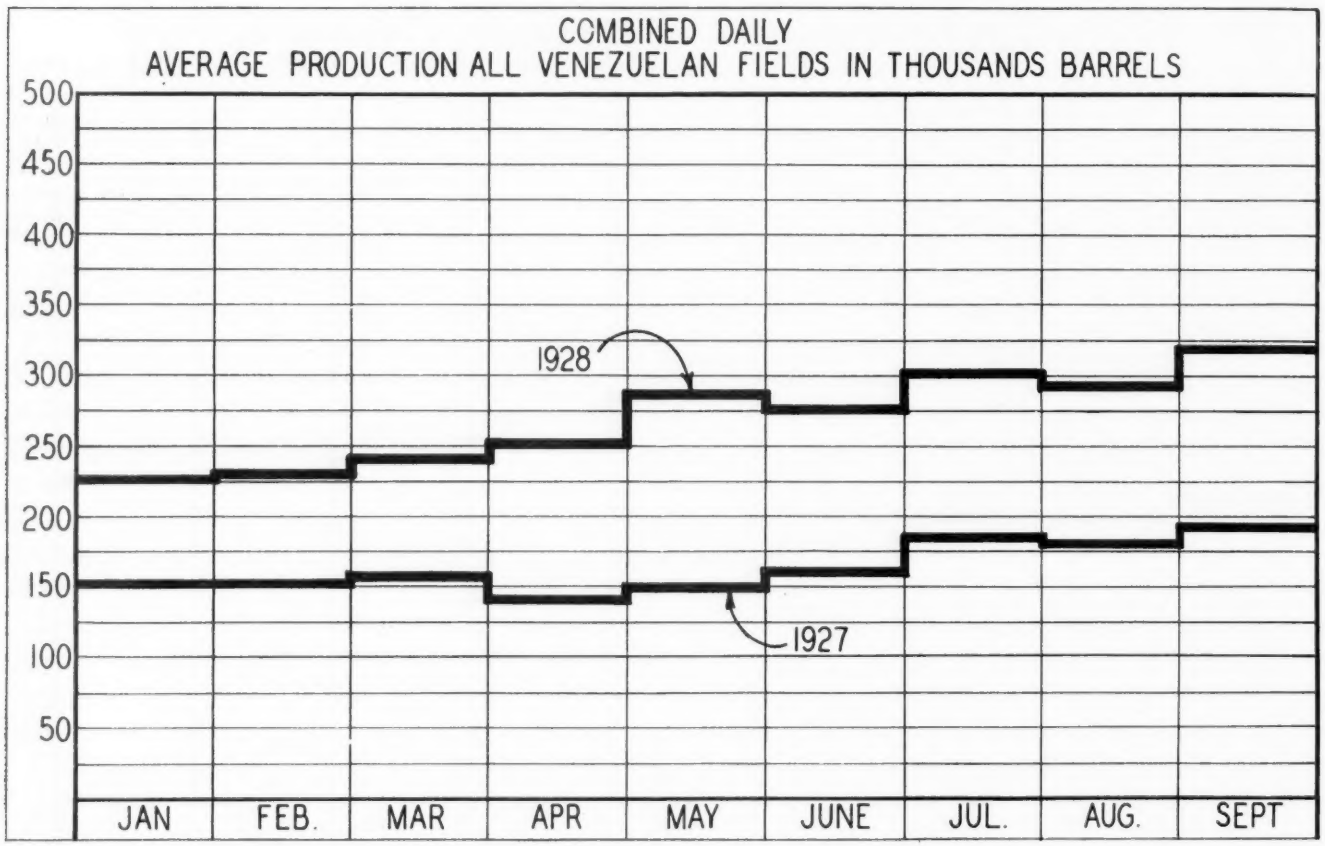
"Experiments on Screen Pipe," E. A. Carr, Pure Oil Co.

Group 2.—General Topic: Refinery Technology (North Ball Room)

Chairman: (To be announced).

"Testing and Maintenance of Fire Foam

Venezuela's Output Gains 70% in 1928



TULSA, Nov. 3

VENEZUELAN production of crude oil during the first nine months of 1928 has been consistently above that of the corresponding months of 1927.

The figures below, are taken from O'Shaughnessy's South American Oil Reports, a recognized authority on matters pertaining to oil in the South American continent. About one-half of this amount is shipped to the United States. Practically the entire production of the country is exported.

According to the same authority a total of 994 producing wells have been drilled in all fields in the country up to Oct. 1, 1928. This adds 309 wells to the producer list of 685 as it stood Oct. 1, 1927. Figures given for Sept. 1928 show 49 drilling wells in all fields, with seven wells rigging up. This is a slight increase over the number of wells which were drilling during the month.

A table of production and shipments by companies for the first nine months of 1928, compared with the same period in 1927, follows.

COMPANY	January	February	March	April	May	June	July	August	September
Venezuelan Oil Concessions									
Production 1928	1,759,764	2,330,636	2,681,571	2,769,311	3,100,677	2,967,815	3,247,523	3,364,926	3,345,453
Production 1927	1,882,843	1,813,600	1,898,999	1,675,332	1,736,595	1,740,634	2,034,886	1,590,463	1,676,086
Shipments 1928	1,754,537	2,359,427	2,807,420	2,779,049	3,150,207	2,913,063	2,606,537	3,238,671	3,238,550
Shipments 1927	1,404,900	1,418,300	1,348,200	774,365	1,328,322	1,555,400	1,578,200	1,362,747	1,282,482
Lago									
Production 1928	2,061,117	1,925,604	2,070,568	1,897,110	2,206,387	2,240,066	2,426,456	2,361,745	3,060,698
Production 1927	1,036,713	946,182	972,100	1,091,394	1,102,497	975,113	1,347,663	1,445,403	1,636,816
Shipments 1928	1,826,003	1,780,544	1,873,173	1,870,816	2,259,056	2,306,849	2,545,412	2,597,358	2,347,723
Shipments 1927	790,827	857,962	816,682	774,365	866,178	830,183	1,116,622	1,356,257	1,479,828
Gulf									
Production 1928	1,475,329	1,549,433	1,833,340	1,515,444	1,999,997	1,809,700	2,061,124	2,096,982	1,952,413
Production 1927	1,066,421	902,557	961,260	840,307	954,319	1,229,333	1,185,430	1,191,900	1,139,900
Shipments 1928	1,533,000	1,637,000	1,682,500	1,569,000	1,934,813	1,943,000	2,199,000	1,836,000	1,905,000
Shipments 1927	760,681	649,579	672,000	608,739	782,029	640,239	868,000	849,685	910,662
Caribbean Petroleum									
Production 1928	1,451,048	795,556	819,609	1,224,530	1,297,753	1,134,270	1,486,872	1,015,219	941,430
Production 1927	567,300	467,280	593,900	412,400	589,000	615,000	622,225	805,500	1,057,020
Shipments 1928	1,445,820	786,476	838,580	1,191,000	1,014,188	895,000	1,283,200	1,052,232	913,437
Shipments 1927	496,100	347,000	448,600	413,400	569,200	585,200	620,500	681,373	854,989
British Controlled Oil Fields, Ltd.									
Production 1928	195,045	167,609	164,120	154,081	145,809	153,224	139,566	154,180	141,509
Production 1927	246,340	235,900	234,903	211,830	202,864	193,500	198,000	203,541	204,403
Shipments 1928	205,500	166,216	154,300	138,237	118,900	138,602	137,445	141,129	174,013
Shipments 1927	208,400	234,700	203,200	228,000	205,778	184,800	189,600	184,600	166,428
General Asphalt									
Production 1928	52,000	30,000	31,500	34,000	33,500	34,000	36,000	38,000	36,000
Production 1927	58,300	58,000	43,200	43,800	45,000	53,000	52,000	53,000	48,000
Shipments 1928	52,000	30,000	31,500	34,000	33,500	34,000	36,000	38,000	36,000
Shipments 1927	58,300	58,000	43,200	43,800	45,000	53,000	52,000	53,000	48,000
Total Production, 1st 9 mos. 1928	6,994,303	6,798,838	7,600,708	7,594,476	8,784,123	8,339,075	9,397,541	9,031,052	9,477,503
1st 9 mos., 1927	4,857,917	4,423,519	4,704,362	4,275,063	4,630,275	4,806,580	5,480,204	5,290,807	5,762,225
Shipments, 1st 9 mos. 1928	6,816,860	6,759,663	7,387,473	7,582,102	8,510,664	8,230,514	8,807,594	8,933,390	8,614,723
1st 9 mos. 1927	3,719,208	3,565,541	3,557,882	3,451,504	3,796,507	3,848,822	4,425,922	4,487,662	4,742,389

Grand Total Production

1st 9 mos. 1928 74,017,619
1st 9 mos. 1927 44,170,952

Grand Total of

Shipments, 1st 9 mos. 1928 71,642,983
Shipments, 1st 9 mos. 1927 35,595,437

Vapor Pressure Tests To Be Discussed at Los Angeles

Staff Special
TULSA, Nov. 5

H. S. Wade, chairman of the vapor pressure committee of the California Natural Gasoline Association, will report on the latest developments of the committee's work to establish a satisfactory method of testing vapor pressure, at the fall meeting of the California association, to be held at the Biltmore Hotel, Los Angeles, Nov. 13 and 14.

This is one of the most important problems before the industry and the committee has attacked it from the standpoint of developing a method which will be practical alike for natural gasoline and other motor fuels, with the thought in mind that ultimately the refiner may be able to use knowledge so obtained in buying natural gasoline to blend with his refinery gasoline to make a product of predetermined characteristics.

The work of the gas analysis committee of the association also will be put out in a paper by A. J. L. Hutchison, entitled "Use of Gas and Gasoline Analysis in the Practical Operation of a Gasoline Plant." Gas and gasoline analysis methods have given the plant operator a yardstick by which he can measure the efficiency of his plant.

J. C. Bolinger, chairman of the committee on compression of plant vapors will present the findings of that committee and E. G. Ragatz will give a paper on "Some Considerations Affecting Absorption and Distillation in Natural Gasoline Plant Design and Operation." All these papers will be presented at the first day's sessions which will begin at 9 and end at 5 o'clock.

The second day will be taken up entirely with an address to be delivered by Dr. George Granger Brown, professor of chemical engineering at the University of Michigan, and director of research for the Natural Gasoline Association of America. Dr. Brown's address will deal chiefly with the value of natural gasoline to the refiner in blending up finished motor fuels. It will supplement his address made last year before the association, and will give additional data gathered as a result of the research program during the last year.

Much of Dr. Brown's work in the past year has been in connection with the determination of the cause of gas lock, and it is expected that much interesting data on this subject will be presented. Members of the refining and research departments of the various companies will find much of interest in Dr. Brown's address and a large number have announced their intention of being on hand for the meeting, it is stated.

The meeting will conclude with a banquet to be held in the new ballroom of the Biltmore Hotel on the evening of Nov. 14.

A. V. Bourque, secretary of the Natural Gasoline Association of America states that the Californians have cordially invited all members of the national association to attend the Los Angeles. He states that a large attendance would be desirable and asks those who are interested in going to get in touch with him at 305 Tulsa building, Tulsa, as soon as possible.

* * *

Natural Gasoline Output Now Shown by States

TULSA, Nov. 5—The U. S. Bureau of Mines in its September statistical report covering natural gasolines began showing the net production of various important fields on the country under state headings. The new type of report will enable students of the government reports to watch the trend of gasoline production from the flush areas.

Oklahoma gasoline production is split into three sections in the new report. The Seminole district is credited with producing 18,200,000 gallons net, an average of 607,000 gallons per day. Osage county is given a production of 8,000,000 gallons and the remainder of the state 22,200,000 gallons.

Texas is divided into four districts. The Panhandle is given a production of 10,300,000 gallons out of the state total of 28,100,000 gallons. West Central Texas was reported as producing 12,800,000 gallons, North Texas 3,600,000 gallons and the remainder of the state 1,400,000 gallons.

In California Long Beach is at the top of the list with a production of 17,600,000 gallons. Ventura Avenue field produced 4,800,000 gallons, Seal Beach 2,300,000 gallons, Huntington Beach 4,000,000 gallons, Santa Fe Springs 2,800,000 gallons and the remainder of the state 14,700,000 gallons. Total natural gasoline production of the nation increased 1,300,000 gallons to 145,000,000 gallons, an average of 4,830,000 gallons per day. The Seminole field produced 12.57 per cent of the natural gasoline production of the nation in September and Long Beach produced 12.15 per cent of the total.

Total stocks of natural gasoline in the hands of manufacturers on Sept. 30 were 18,323,000 gallons, an increase of 915,000 gallons during the month. The largest increase was in the Appalachian region amounting to 443,000 gallons in that district. Stocks at the close of the month represented about four days' supply.

Late Market Changes

PHILADELPHIA—On Oct. 27 Atlantic Refining Co. reduced the posted tank wagon price of gasoline to dealers at Erie 3 cents, and service station price 2 cents, making new prices 14 cents and 17 cents respectively, exclusively of the 3-cent state tax. (Information of this change arrived too late to correct the prices in the tank wagon table of this issue).

Index to Coming Meetings

California Natural Gasoline Association, Biltmore Hotel, Los Angeles, Nov. 13, 14.

Rocky Mountain Oil & Gas Association, Casper, Wyo., Nov. 14, 15.

Rocky Mountain chapter, A. P. I. division of development and production engineering, Casper, Wyo., Nov. 14, 15.

Independent Oil Men of America, Stevens Hotel, Chicago, Nov. 19, 20 and 21.

Rocky Mountain Oil & Gas Association, Montana chapter, Great Falls, Mont., Nov. 23, 24.

American Petroleum Institute, Stevens Hotel, Chicago, Dec. 4, 5, 6.

Nebraska Independent Oil Men's Association, Municipal Auditorium, Hastings, Neb., Dec. 4, 5, 6.

Wisconsin Petroleum Association, Schroeder Hotel, Milwaukee, Dec. 12.

Wisconsin Petroleum Association: Park Hotel, Madison, Jan. 16 and Feb. 13; Schroeder Hotel, Milwaukee, March 13 and Apr. 10; Beaumont Hotel, Green Bay, May 15.

Ohio Petroleum Marketers Association, Neil House, Columbus, O., Feb. 13, 14, 15.

Iowa Independent Oil Men's Association, Des Moines, Ia., Feb. 19, 20.

American Association of Petroleum Geologists, Fort Worth, March 21, 22, 23.

Review of Late Production News

For the first time in two months, daily average crude production in the country again fell below the two and a half million barrel mark, when output totaled 2,497,150 barrels, for the week ended Nov. 2, a decrease of 26,550 barrels from the previous week. The largest change in any one field during the week was in Little River, Okla., which fell off 6800 barrels.

Crude oil imports gained 66,714 barrels daily, being at the rate of 280,571 barrels daily average during the week ended Nov. 2.

Total new crude supply is 2,777,721 barrels, a gain of 40,164 barrels over the previous week.

Seminole area production declined 10,250 barrels, to a daily average of 302,050 barrels, and total Oklahoma output was off 12,600 barrels.

No large changes occurred in west Texas, Winkler county falling off 1700 barrels, Pecos county 2900 barrels and Crane-Upton 1200 barrels.

Salt Creek field fell off 3250 barrels. Santa Fe Springs in California increased 3300 barrels on daily average.

Oklahoma-Kansas

THE completion of the Amerada Petroleum Corp. No. 1 Gosland as a producer has stimulated interest in the Misener sand area in western 8-5, Pottawatomie county, Okla.

Although this well is producing from the Hunton lime, immediately under the Misener, it had the latter formation at a depth which indicated that this erratic formation might be regular enough to produce over a considerable area. The Amerada well, in the NE SW of 8-8-5, is flowing by heads at the rate of about 50 barrels per hour.

The Mission area, in the Greater Seminole district, continues to mark time by building rigs and moving in supplies for the grand opening, which takes place Nov. 15. About 70 wells are expected to start drilling on that date.

Production from both the Seminole and St. Louis areas fell off during the week, Seminole production going below 300,000 barrels for the first time since the opening of the Little River pool to full capacity. Part of this decline is attributed to the cold weather.

California

THE Milham wild gasser in Kettleman Hills, Kings County, has been controlled and late in week produced 760 barrels of 43 gravity oil in 14 hours, in addition to 40,000,000 cubic feet of gas. The oil has a gasoline content of 63 per cent, kerosene content of 26 per cent and 11 per cent light fuel oil.

It has a mixed base, about equally divided between asphalt and paraffin. Gas traps have been placed and 8000 barrels of storage erected. Several new locations will be made in the next few weeks, mostly by major companies.

Santa Fe Springs burning well is now completely controlled. It has been producing 3350 barrels of oil and 7,250,000 cubic feet of gas through the tunnel, with some oil and gas still burning at the mouth of the well. The 9-inch casing was tapped and compressors connected to pull the oil and gas from the hole through the tunnel.

In this field, there are 240 operations, ranging from locations to drilling wells. Of this total, 198 are drilling or deepening holes. One new well is in for 4450 barrels of oil from 148 feet of Buckbee sand. Several wells are due for production tests within a few days.

Three new wells at Seal Beach furnished 6100 barrels of flush production from deeper zones. At least 6 new holes will be deepened by the end of the year.

Shut in production in total of 11,250 barrels has been opened in Kern River field, mostly in Kern Front, leaving 11,680 barrels still shut in. Land owners forced the opening of the wells.

Texas, New Mexico, Louisiana

BY ORDER of the Railroad Commission of Texas, which administers the state's conservation laws, the limit of Howard-Glasscock county production was raised from 25,000 barrels to 30,000 barrels, daily, effective Nov. 1.

Main pool production under prorating practice remains at the same level, the additional 5000 barrels allowable applying to the George A. Henshaw completion in the 2200-foot horizon about three miles west of other wells. When other completions are made in the Henshaw well area a new prorating order is to be issued.

Fort Worth reports say J. S. Cosden & Co., Inc., has contracted to deliver McMahon Oil & Pipeline Co. 1,000,000 barrels of Howard county crude for tank car shipments to Shreveport destination, beginning Nov. 12, when a 16 cents per hundred freight rate will be put in effect by the Texas & Pacific railroad. The posted price of 65 cents a barrel, plus short line pipeage and loading charges will apply, making the price 72½ cents for the first 250,000 barrels and 75 cents for the remainder.

Cosden also contracted to buy 5000 barrels daily from Henshaw for a year, paying 80 cents a barrel for crude from the west extension area of Howard county. This oil tests higher gravity than that produced in the main pool.

Previously announced pipeline construction of the Texas, Shell and Atlantic Companies will afford approximately 125,000 barrels daily additional crude outlet from west Texas by next spring. The Atlantic's 10-inch system from Midland to the Gulf Coast will be completed in December. The Texas and Shell 12-inch and 10-inch lines to the Gulf Coast will be completed by spring, probably in March.

Southeastern New Mexico wildcatting, although closely watched, developed nothing of fresh significance in the week under review.

Nothing of more than local interest developed in Louisiana or old areas of Texas.

The Diploma Sank to the Trunk Bottom

By Paul Truesdell
N. P. N. STAFF WRITER

Dan J. Moran, president of the Marland Oil Co.

NEW YORK, Nov. 2

A GRADUATE of Case School of Applied Science, Cleveland, among the leading engineering schools of the country, packed his trunk, with his diploma on top, and set out to look for a job.

He had listened to learned heads, on Commencement Day, describing the opportunities for personal advancement and service to mankind that lay with those of the engineering profession.

So this youth took his engineering training, with some pride, to the oil fields. That was 20 years ago. The youth was Dan J. Moran, the new president of the Marland Oil Co.

He soon discovered the best way to close the door to a job in his own face in the oil fields was to make public that he was an engineer by training. The diploma went farther and farther down in the trunk with each packing. Moran, when he sought a job, forgot about Case School and just told how husky he was, and where he had worked before.

"Engineering" was a hard sounding and mysterious word to oil company executives in those days, and its followers were regarded with doubt if not suspicion. But that was in 1908.

The young graduate was quick to see the point. Brushing away, for the present, the visions he had dreamed of the standing, the pay, the opportunity for advancement to which his scientific training would be the key, he perhaps let his whiskers grow for a couple of days and applied for a job where hard hands and thick muscles, plus a willingness to work, furnished the only recommendations recognized.

He got such a job, for he had the qualifications. And he was no stranger to this work either, for his employment in the oil business had begun at 10 years old. One of a family of 9 children, whose father was a field man for the Standard Oil Co., every penny he could add to the family income was a help. His family had moved to Lima, O., from Cygent where he was born, and young Dan went to work as messenger in the Lima offices of the Buckeye Pipe Line Co.

From that time on, in vacation times, all the time he could spare from his schooling, he worked at the oil industry. Lease jobs, running pumping powers, telegraph operators; all these and many others came within his line of activity. After leaving Case, he held several jobs in the oilfields, worked for the Oklahoma Iron Works at Tulsa for awhile, and then went to work for The Texas Co.

J. S. Cullinan at that time was the dominating figure in the company. He soon found that Dan Moran was a useful young man to have around; that he would generally put through whatever he started. He had not been with the company long when Mr. Cullinan assigned him to sell heavy fuel oil the company was making from Mexican and Gulf Coast crude, to manufacturing industries on the Atlantic coast in the southern states.

Nobody then knew whether such fuel could be successfully burned under boilers or not. Moran himself did not know. But he found out and sold the manufacturers on the advantage so thoroughly that they took it on. While on the east coast, Mr. Cullinan gave him instructions to buy sites and build or buy a number of bulk distributing stations for the company in the southern states. He carried out this job successfully.

Of course, his scientific and technical training and the straight thinking habits it had taught, helped him at every step but he concealed his engineering knowledge as a guilty secret rather than paraded it, because of the prejudice against school trained men then in the oil producing industry.

Anxious to learn all branches of the business, Moran applied for transfer to the refining department. He was assigned to Port Arthur where he shortly became chief engineer and was largely responsible for the building of the big refinery there. The company had a lot of work to be done in Mexico. Moran was sent

to do it. He built two refineries, pipe line facilities, and did all kinds of field work, being placed in operating charge of Mexican operations.

Later he was called back to the United States to build seaboard terminals. As superintendent of southern terminals, he built or enlarged the seaboard distributing facilities at Gulfport, Pensacola, Tampa, Key West and Savannah.

In 1921, after spending some time in South America in active field work, he was made vice president and general manager of The Texas Co. of Mexico, S. A., with headquarters at Tampico. Altogether he put in some 5 years in Mexico. He was called home in 1922, to become general manager of the company's producing department.

Election to a vice presidency, directorship and membership on the executive committee of The Texas Co. followed. He left these positions to head up the Marland company.

"I can't say anything yet about what I'm going to do, further than that I'm going to make it go or bust," he said when interviewed in the New York offices of the company about his new job.

"My coming here was very sudden to me. I know less about the holdings and affairs of the Marland company than almost any other producing company. I can't tell what a job really is until I see it."

So Mr. Moran is going out to Ponca City in a week or so and put on his old boots. He is going personally over every acre of leases, every part of the big refinery and every one of the scattered natural gasoline plants and pumping stations, "and get acquainted with the people out there," he says.

Although he has spent the last few years in the New York and Houston offices his feet are more accustomed to feeling the sand or mud of the lease under them than heavy, noiseless carpets. His well fitting New York clothes do not disguise the fact that thick serviceable muscles still cover his broad and stocky frame. He steps around rapidly, but he does not hurry.

People mostly like him. His bright, keen blue eyes glinting through nose glasses and the ready smile that frequently lights up his round face, give a guarantee of frankness and friendliness.

Perhaps these qualities had much to do with his selection, from a large field, for the big position he holds. These and the fact that he has a reputation for making quick decisions and of being right often enough so that the balance sheet is written in black when he is in charge.

Refining in Transit Privilege Refused Wood River Plants

WASHINGTON, Nov. 5

THE Interstate Commerce Commission has again refused to make the railroads recognize "refining in transit."

The refusal came as a dismissal of a complaint brought by the White Star Refining Co., Detroit, and concurred in by the Roxana Petroleum Corp., St. Louis. Each of these two companies has a refinery at Wood River, Ill., products from which, it was said, could not compete in Ohio, Indiana, Michigan and Canadian markets on an equal basis with Group 3 refineries although the White Star and Roxana derived their raw material from Oklahoma.

Transit is the term applied by railroads and traffic experts to the practice of granting a through rate or a through rate plus 1 or 1½ cents per hundred pounds on commodities which are processed along the route between the source of supply of the rate material and the ultimate market for the products.

For example, crude oil produced in Oklahoma would be shipped from Oklahoma to Wood River, refined there and the products shipped to Ohio for consumption. At present the actual freight from source of supply to point of consumption is the sum of the two local rates, Oklahoma to Wood River, on crude, and Wood River to Ohio, on refined products. Under the transit privilege the freight rate would be only the through Oklahoma-Ohio rate on crude, or 1 or 1½ cents per hundred pounds above the through rate.

Transit rates are allowed by the Wabash and Nickel Plate railroads to refiners with plants at Lima, Findlay and Toledo, O., but the commission in its refusal to require the roads serving the White Star and Roxana to recognize the transit privilege said transit was not generally extended to petroleum. It is extended to grain which may be milled in transit, logs and lumber, and to a limited extent to iron and steel which may be fabricated in transit.

Oil Company Radio Programs

For Week Starting Nov. 4

NATIONAL PETROLEUM NEWS *offers you in these two columns the time and stations through which many oil companies over the country offer their radio entertainment programs. If other oil companies will furnish the announcements of their programs in advance they will be included in this program.*

Following are the oil industry radio programs for the week of Nov. 11. All time is central standard, and p.m., unless indicated.

Sunday, Nov. 11

8:00-9:00 a.m.—KFDM, Magnolia Petroleum Co., religious service.

11:00-12:00 a.m.—KFDM, Magnolia Petroleum Co., religious service.

12:00-1:00—WHK, Pocahontas Oil Co., "Blue Flash Indians" (orchestra).

12:00-1:00—KFDM, KPRC, Magnolia Petroleum Co., Star quartet.

6:30-7:00—KFON, Hancock Oil Co., orchestra.

11:00—2:00 a.m.—KFON, Hancock Oil Co., "All Star Nite."

Monday, Nov. 12

12:35-1:00—KFDM, Magnolia Petroleum Co., organ recital.

5:30-6:30—WKH, Pocahontas Oil Co., "Blue Flash Indians" (orchestra).

6:30-9:00—KFON, Hancock Oil Co., orchestra.

8:00-9:00—KFYM, WRR, Magnolia Petroleum Co., Magnolia band and orchestra, Dallas.

Tuesday, Nov. 13

12:30-1:00—KFDM, WFAA, Magnolia Petroleum Co., Magnolia Refinery Band.

6:30-8:45—KFON, Hancock Oil Co., orchestra.

6:30-7:00—WEAF, WEEI, WTIC, WJAR, WTAG, WCSH, WGY, WGR, Standard Oil Co. of New York, Soconyland Sketch, over National Broadcasting Co. chain.

8:00-10:00—KFDM, Magnolia Petroleum Co., Magnolia orchestra.

Wednesday, Nov. 14

12:30-1:00—KFDM, Magnolia Petroleum Co., studio program.

6:30-9:00—KFON, Hancock Oil Co., orchestra.

11:00-11:30—KFI, KHQ, KOMO, KGW, KGO, KPO; Associated Oil Co., Jack and Ethyl, "The Motor Mates," over Pacific coast National Broadcasting Co. chain.

Thursday, Nov. 15

12:35-1:00—KFDM, Magnolia Petroleum Co., organ recital.

5:30-6:30—WHK, Pocahontas Oil Co., "Blue Flash Indians," (orchestra).

1:00-1:30—KFI, KGO, KGW, KOMO, KHQ, KPO, Standard Oil Co. of California, Standard school broadcast, over Pacific coast National Broadcasting Co. chain.

6:30-9:00—KFON, Hancock Oil Co., orchestra.

9:30-10:30—KFI, KGO, KGW, KOMO, KHQ, KPO, Standard Oil Co. of California, Standard Symphony Hour, over Pacific coast National Broadcasting Co. chain.

Friday, Nov. 16

12:30-1:00—KFDM, WFAA, Magnolia Petroleum Co., Magnolia band.

6:00-9:00—KFON, Hancock Oil Co., orchestra.

7:00-8:00—WEAF, WTAM, WEEI, WLIT, WRC, WGR, WCAE, WWJ, WSAI, KYW, WCCO, KSD, WOC, WOW, KVOO, WDAF, WFAA, KOA, Cities Service Oil Co., Cities Service Hour, over National Broadcasting Co. chain.

8:00-10:00—KFDM, WRR, Magnolia Petroleum Co., Magnolia Refinery band, Beaumont. Co., Magnolia Refinerly band, Beaumont.

9:00-10:00—KFDM, Magnolia Petroleum Co., Magnolia Refinery band.

10:00-10:30—KFI, KTO, KPO, KHQ, KTW, KOMO, KFAI, General Petroleum Corp., General Independents, over Pacific coast National Broadcasting Co. chain.

Saturday, Nov. 17

12:30-1:00—KFDM, KPRC, Magnolia Petroleum Co., miscellaneous entertainment.

7:00-9:00—KFDM, KPRC, Magnolia Petroleum Co., miscellaneous entertainment.

8:00-9:00—KFON, Hancock Oil Co., orchestra.

9:00-10:00—KFDM, WFAA, Magnolia Petroleum Co., barn dance.

The White Star alleged it operated at a disadvantage of 5 cents per 100 pounds into the Michigan, Indiana, Ohio and Canadian markets, or approximately 1/3 cent a gallon.

Transit service, the commission said, was of a special nature and except where it was universally available and necessary in respect of a particular commodity, such as grain, should not be required by its order, except upon a clear showing that failure to provide it resulted in the exaction of unreasonable rates or in undue prejudice. The record clearly indicated, it said, that transit service such as that accorded by the railroads at the Ohio points was an exception and not the rule.

The rate body also said that the Nickel Plate and the Wabash could not be held to discriminate against the White Star because they did not serve its plant. Conversely it said that the Illinois Terminal, the only railroad serving the White Star, could not be held to prefer the Ohio refinery points because it did not serve them.

The rate body said the White Star brought its crude to Wood River by pipe line at a cost of about 18 cents per 100 pounds but that on natural gasoline it had to pay the refined product rate. The railroad rate on crude to Wood River is 24 cents. The commission said it had not been shown by the testimony that even if it required the railroads to give transit that the White Star would bring its crude to Wood River in tank cars.

Getty Well Fire Extinguished
(By Telegraph)

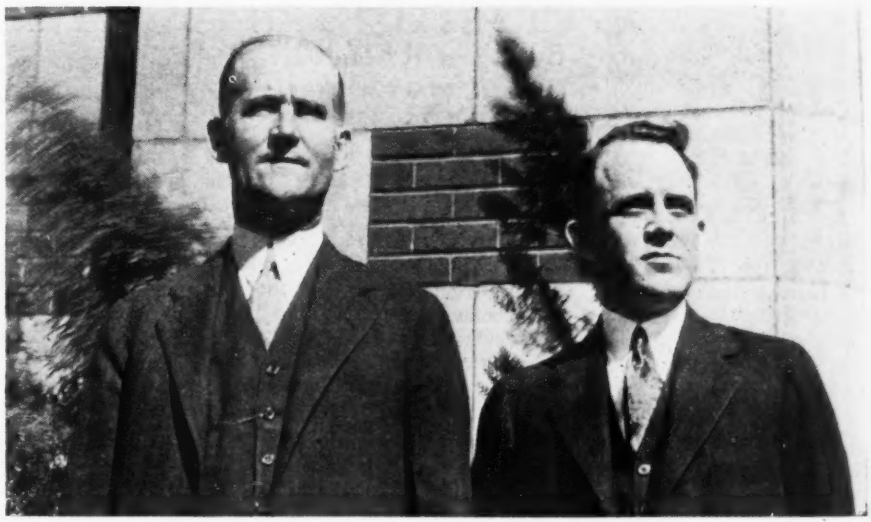
LOS ANGELES, Nov. 5.—Geo. F. Getty's well at Santa Fe Springs, which had been burning more than six weeks, is now completely under control. The fire is out and the well flowed 5512 barrels of oil, in addition to 11,000,000 feet of gas, during the 24 hours ending the night of Nov. 4. This well is producing from an intermediate sand just above the Buckbee. The flow is coming through lines through the tunnel drilled to tap the casing of the burning well, and also from the well fittings at the surface.

Producer West of St. Louis Pool
(By Telegraph)

TULSA, Nov. 5.—The Texas Co. No. 1 Cherry, a mile west of the heart of the Wilcox production in the St. Louis pool, found the pay streak in the Wilcox at 4255 feet. The well started flowing steadily at the rate of 100 barrels hourly after penetrating the sand four feet.

Located in the SW NW NW of 25-7N-4E, the new producer may indicate another Wilcox producing area, as there have been some dry holes drilled recently between this well and Twp. 7-5.

O'Donohoe, Laney Reflected By Texas Producers



John F. O'Donohoe, president, Petroleum Producers Co., Wichita Falls, re-elected head of the Texas division, Mid-Continent Oil & Gas Association; right Joseph P. Laney, Dallas, re-elected secretary

HOUSTON, Nov. 3

JOHN F. O'DONOHOE, of Wichita Falls, was reelected president and Joseph P. Laney, of Dallas, secretary, at the annual meeting of the Texas division, Mid-Continent Oil & Gas Association, in Houston, Nov. 2.

Other officers were also reelected with the exception that Robert W. Pack, Sun Oil Co., Beaumont replaced L. J. Black, of the Beaumont Iron Works, as one of the vice presidents.

Vice presidents reelected included Judge H. E. Bell, of the Moutray Oil Co., Abilene: Edward T. Moore, president, Simms Oil Co., Dallas; W. A. Moncrief, independent operator, Fort Worth; John R. Suman, general production executive, Humble Oil & Refining Co., Houston; and Levi Smith, president, Big Lake Oil Co., Texon. W. M. Massie, Fort Worth banker and oil man, was reelected treasurer.

Robert W. Pack, Sun Oil Co., Beaumont, new vice president Texas division, Mid-Continent Oil & Gas Association

New directors of the Texas division include Dan J. Moran, president, Marland Oil Co. of Delaware; Sheldon Hardin, president, Southern Crude Oil Purchasing Co., Fort Worth; Warner Clark, southern manager, the California Co., Dallas; Paul Wagner, Houston Manager, NATIONAL PETROLEUM NEWS; Frank Yount, president Yount-Lee Oil Co., Beaumont; A. M. Bowman, general purchasing agent, Humble Oil & Refining Co., Houston, and president, National Association of Purchasing Agents.

F. J. Adams, agent, Gulf Production Co., Fort Worth; Angus McCloud, Roxana Petroleum Corp., Dallas; W. M. Irish, Jr. Atlantic Oil Producing Co., Dallas; Charles McGaha, Fain McGaha Oil Co., Wichita Falls; Mel Shugert, Sinclair Oil & Gas Co., Fort Worth; R. F. Baker, chief geologist, The Texas Co., Houston; Edgar J. Marston, president, Texas Pacific Coal & Gas Co., Fort Worth.

Besides holding the annual election only routine business was transacted at the association's session. By invitation, R. S. Sterling, chairman of the Texas state roads commission, outlined to the association his plans for a $300,000,000 bond issue for the construction of highways over the next ten years.

Mr. Sterling's program contemplates a constitutional amendment that would permit application of a three-cent gasoline tax to highway construction work. The present tax is two cents, one fourth of which goes to the State's educational fund under a constitutional provision. This feature of the taxation, Mr. Sterling said, he did not seek to change.

$100 Station License Fee Killed in Blue Island

By Ward K. Halbert
N. P. N. STAFF WRITER

CHICAGO, Nov. 2

FILLING station operators of Blue Island, Ill., have won their fight against payment of a municipal license fee of $100 a year per station.

During the process of the litigation city officials threatened to blockade the stations of oil men who declined to pay the tax by stationing a "cop" on the driveway to keep motorists from driving across the sidewalks.

The ordinance in Blue Island charging oil stations $100 a year license is six years old. All the station owners in town but one have paid the tribute yearly for six years. The exception is Nels Johnson, owner of a private filling station. Mr. Johnson was formerly a sailor; for many years captain of a boat that plied the Great Lakes. After laying out $100 to the city administration for nothing, three times in succession, he quit paying it.

The city authorities tried several forms of persuasion before bringing suit but finally sued Mr. Johnson for $300, license fees for 1926 to 1928 inclusive. He got plenty of moral support from other oil men in town and employed Lewis D. Ross, a Chicago lawyer, to champion his cause The result was a spot value of at least $10,000 to Blue Island oil men for 1929.

Blue Island is not a metropolis. It is a Chicago suburb with less than 20,000 population. The facts in this case were almost identical with those in a case recently won by the oil men of Minneapolis against the city.* Nevertheless there are some interesting differences:

The Minnesota case came to trial on a plea for an injunction to restrain the city from enforcing the ordinance. The Illinois case attacked the validity of the ordinance direct and got it declared invalid. The Minnesota case was heard by a district court while the Illinois case was decided by a police magistrate. Net results were the same. Mr. Ross points out that in Illinois the methods of licensing a business are specifically set out by statute.

The two cases were decided about the same time and both are considered especially valuable because both turned on the points at issue. There were no vague issues nor technical points of law that had bearing on the decision. For example, Mr. Johnson and his lawyer agreed not to dispute the validity of the process of the enactment of the Blue Island ordinance.

Judge Millard A. Rauhoff, the magistrate who decided the case in favor of the oil men, brought out several of the same points in his decision that were made in the Minnesota decision. In brief, he ruled that a municipally has a right to license a business enterprise, but the fee must be reasonable. In the case of a legitimate business, the power to issue a license must not be used to exact an unreasonable fee. The fee may be made large enough to pay for police supervision if the business is such as to require supervision, but that is not the case with an oil station. The decision said in part:

"While a city has no inherent power to license any occupation or exact a license fee from any person, it may do so under power granted to it by the legislature, or necessarily incident to a power so granted. In order to justify an ordinance requiring a license to engage in a particular occupation as a proper exercise of the police power, it must appear that the requirement of a license tends to promote the public health, safety or welfare.

"Such regulation may properly include the provision of methods of installation and use of tanks for the handling and storage of volatile, inflammable liquids, pumps or devices for the removal or conveyence of the contents of such tanks.

"The ordinance in question contained no provisions of this character, and hence it is plainly not intended to be regulatory in any manner under the police power where it must appear that the requirement of a license tends to promote the public health, safety or welfare.

"Filling stations are a necessity in modern motor traffic. The keeping of an oil or a gasoline supply upon the premises of motor vehicle users would be an intolerable source of inconvenience and danger. Filling stations are usually well and neatly kept. They are neither resorts for objectionable people nor loafing places, nor are they of the character of many lines of business which easily tend to become a nuisance. And, in fact, there was no evidence that the city gave any particular care to the filling stations, any more than to dwellings."

Further along in his discussion the court dwelt upon the unfairness of taxing a service station more for a license than curb pumps, garages or automobile sales agencies. On this point Judge Rauhoff said:

"A person may go into the business of conducting a garage or automobile sales room and pay a license fee of $15 to $30 a year. He may install a tank and gasoline pump in the parkway on city property and by paying a license fee of $50 a year, as provided, * * * he may conduct a business of selling gasoline, all for a total license of not to exceed $80, or $20 less than is required of a gasoline filling station on private property. * * * This inequality is too glaring to be lightly overlooked."

*NATIONAL PETROLEUM NEWS, Oct. 24, page 28

Exposition Has Cash Surplus This Year

TULSA, Nov. 3.—The International Petroleum Exposition finished its fifth show in good financial shape, according to J. Burr Gibbons, who has been general manager for the past two years. Gross revenue from sale of space, concessions, tickets and gate receipts this year was given as $132,548.61, subject to unimportant additions from sources not yet reported.

This amount, said Mr. Gibbons, will meet every item of expense this year, pay off $10,000 note resulting from the payment of 1925 bills out of 1927 proceeds, and leave a surplus to take care of overhead for the next few months.

Mr. Gibbons, who retires as manager to become vice-president of the Oil Well Improvements Co., said that the attendance was 108,903 total for the 10 days of the show. This was a record, as also was the display of equipment, 40 per cent larger than the 1927 show. There were 71 delegates from 20 foreign countries.

His recommendation to the board of directors at their Nov. 8 meeting, is that the show be held annually. Questionnaire sent to all exhibitors this year showed considerable sentiment for an every-other-year show, but Mr. Gibbons said that new exexhibitors can be found each year to keep the exposition up to the 1928 standard. He pointed out that of those showing this year, 43 per cent were either new or did not show in 1927.

Mr. Gibbons makes a number of recommendations as to improvement in grounds. He urges that special effort be made to bring foreign exhibits and to make the marketing division of the industry a greater part of the exposition hereafter. He recommends that the president of the United States be invited to make the opening address, in Tulsa, next year, as the exposition has grown to be a world-wide event and takes rank with any trade exposition in the country.

Restoring Pressure in Old Texas Field Flows Wells Regularly

TULSA, Nov. 3

By Lawrence E. Smith
N. P. N. STAFF WRITER

IN A north Texas field, whose development dates back to 1909, pressure has been restored so successfully that all wells flow their production from the bottom.

One man operates the property and he is not overworked. He attends the compressor station and goes at regular times to the wells, turning them into the flow line and shutting them off when they have made their production. Some care is exercised in carrying out this part of his work, as the production from each well is so limited as to keep the sand covered with fluid.

Such a thorough change in former lease operating conditions has not previously been accomplished. In a number of instances operators have repressured properties and succeeded in getting one or two wells to flow, part of the time. On this Texas property, however, flowing is the regular production method and is accomplished without mechanical devices in the well; sand pressure having been restored to the point where it is sufficient to lift the oil.

The Lockridge lease, where this result has been achieved, belongs to W. G. Lackey, of Tulsa and is operated by Dunn & Lewis, consulting engineers and property managers, Tulsa. It is seven miles southeast of Iowa Park, Wichita county, Texas. Pay sand is about 500 feet from surface and averages 14 feet in thickness. It is consistent in texture, brown, sugary and is all sand from top to bottom with no shale breaks. It appears to be uniform as to cementation, with no difference as to hardness. In all, it is ideal for the even diffusion of gas.

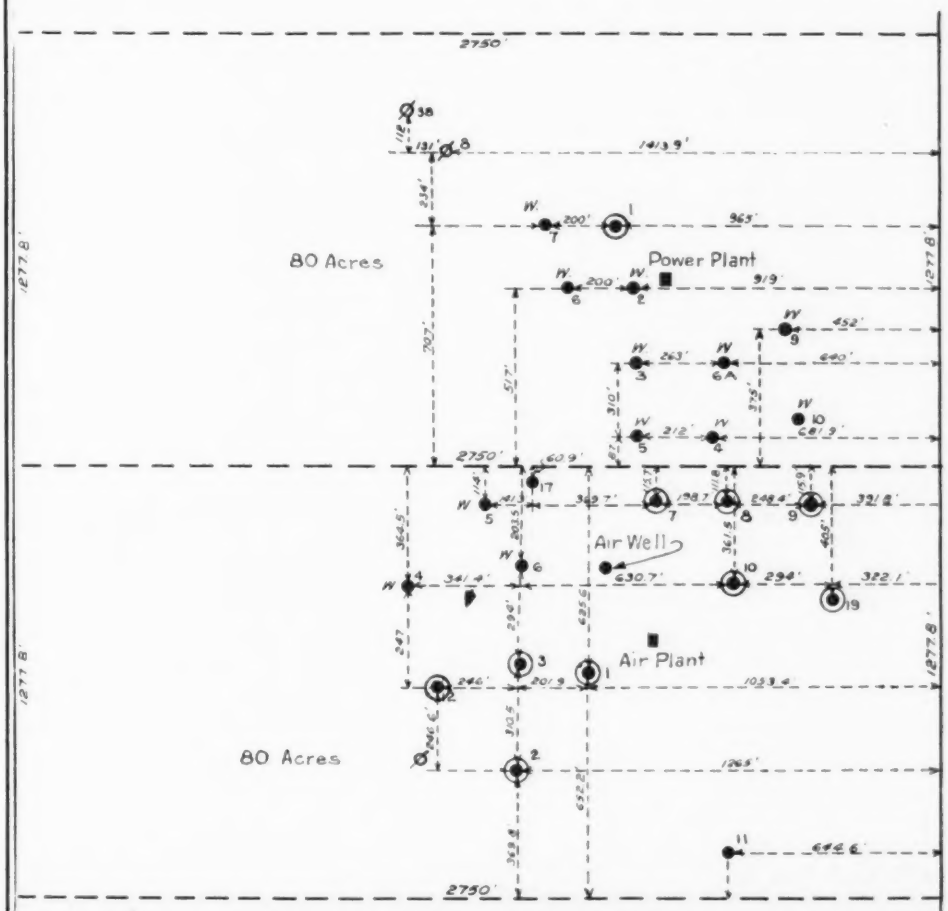
That factor is responsible for the even building up and maintenance of pressure which induces all the wells to flow—that and the control of such pressure by maintenance of back pressure and prevention of escape of gas. Back pressure prevents by-passing of gas through one or a few wells which would rob the others of pressure.

It was remarked that no special underground equipment is used in flowing the wells. The only exception to this is the booster collar inserted in the string of tubing, which is nothing but an orifice to admit small quantities of gas and thus lighten the fluid column in the tubing, giving a partial air-lift effect. Such orifice is varied in size and location according to the amount of fluid the well makes. Fairly exact data have been worked out by Dunn & Lewis on the effect of orifices in tubing strings but are not available for publication.

Sometimes it is necessary to admit a small quantity of compressed air

Course of production on the repressured property in the old field in Wichita county, Texas, from 1926 to the end of July. It also shows monthly operating expense per barrel of oil produced. Fluctuations in this part of the record are due to all purchases for the lease being charged to the current month.

Month 1926	Daily Prod. Bbls.	Operating Cost-bbl.
Jan.	22.27	1.62
Feb.	19.92	1.79
Mar.	26.78	.87
Apr.	25.92	1.04
May	20.88	1.22
June	15.42	1.65
July	43.26	.49
Aug.	66.44	.21
Sept.	65.45	.45
Oct.	65.83	.62
Nov.	62.08	.55
Dec.	45.86	1.71
Avg. daily	40.01	.81
1927		
Jan.	38.96	.84
Feb.	57.69	1.03
Mar.	60.10	1.01
Apr.	57.57	1.04
May	54.91	.45
June	54.18	.66
July	43.78	.52
Aug.	47.74	.22
Sept.	53.35	.25
Oct.	48.57	.33
Nov.	55.05	.19
Dec.	34.57	.75
Avg. daily	50.43	.61
1928		
Jan.	41.31	.34
Feb.	51.80	.31
Mar.	48.97	.25
Apr.	49.68	.23
May	43.73	.35
June	43.73	.35
July	40.12	.37



The Lockridge property, owned by W. G. Lackey, Wichita county, Texas. Wells in circles are those which are being produced and which flow their production. Wells marked "W" are those temporarily abandoned because of water. The map does not show the full width of the property

from the surface to start sluggish wells. No certain wells have to be so handled. One may have plenty of pressure accumulated one day to start its flow the instant the pumper opens the valve at the well, and the next day may require "kicking off" with a small amount of air. All of them are lively enough to flow naturally most of the time. This in spite of the fact that production averages only four or five barrels per well daily. (It should be added that the operators have followed a policy of restricting production since the oil market reached its present level.)

The property had 31 wells classed as producers at the time Mr. Lackey purchased it. The northern part had suffered severely from water. Wells had dropped their casing and previous owners had shot the casing so oil would be admitted to the tubing. This let in water which had been shut off above the sand. While the market is low nothing is being done with this part of the property; the wells have been shut in and probably new ones will have to be drilled when it is desired to go after the oil on this part of the lease. One well, which was in good condition, is being produced but the other nine producers—making 10 out of the 31—are in the southern part of the lease which had not been touched by water.

Reservoir pressures had dropped to zero at the time preliminary work for repressuring was started. There was no show of oil or gas in the well drilled for air intake—not even a "rainbow" in the slush pit. There was a peculiar happening here. After the well was completed, air was admitted for 15 minutes and then shut off. The reaction of the well was to flow oil. Oil was present in the sand in quantity, but was so inert that it would not move into the hole.

Illustrative of the extremely low pressure and gas volume in the sand when the intake well was drilled, the compressor plant had to be started off in gasoline. All wells on the lease were connected together at the casing-head and their combined flow wasn't enough to make a flame.

Not long after repressuring with air was started, gas began to come into the return lines from wells to compressors and this has increased until at this time, of the 350,000 cubic feet returned to the intake well, each day, 300,000 feet is combustible. Aside from the gas required to operate the 120-horsepower engine at the compressor plant and that which is transported off the lease to operate a gas engine power on another lease, all the return from the wells is put back into the sand. Consequently, the percentage of air is constantly decreasing. The operators are careful to save all the gas and even that used in an automatic displacement pump used to lift water at the compressor station is caught and returned to the compressor. The only depletion of gas from the property is that used for the gas engine on another lease belonging to the same operator.

All wells except one are flowed into the same separator and the gas is taken off for return to the compressor and thence to the sand. The exception is a well which is being operated by the stop-coking method—periodically shutting in for enough time to build up pressure. One or two of the wells are flowed twice a day, as the operators have found that the gas factor is lowered in that way. The attempt is to keep the amount of gas per barrel on oil about the same at all wells, as a more even distribution of pressure through the sand is thereby effected.

One main gas gathering line extends across the lease, all wells being "stabbed in" to this. The main line is equipped with back pressure regulator and about 20 pounds back pressure is held on the wells. Oil production, of course, would be more without back pressure, but by-passing of gas through the sand might also result, preventing the uniform extraction of oil.

Repressure operations were started in June, 1926. At that time the daily production from the part of the property now being produced was 15.6 barrels. With the start of repressuring, all wells that were in the water trouble area were shut in and have not been produced since. By September of that year two wells were flowing their production and by January, 1927, all 10 now operated were flowing regularly. Six months after starting the air drive the plant was shut down for a week, while changes were being made in the operating system. At that time reservoir pressure was about 110 pounds. It is the opinion of I. L. Dunn that it has changed but little since that time. The compressor delivers against a pressure of 175 pounds at the air well, but this would settle down quickly if the air supply were shut off.

Advance Early Hotel Reservation Urged for I.O.M.A. Meeting

CHICAGO, Nov. 3

HOTEL reservations have begun already to pour into the offices of the Stevens Hotel and the Independent Oil Men of America in Chicago from oil men who are making sure to have a room on the dates of the Annual Marketing Congress of I.O.M.A., Nov. 19, 20 and 21. Early reservations are urged.

Lou Harrington, manager of the association, said the Stevens management had reserved five floors of the hotel to be used by I.O.M.A. members. This is to assure the hotel that all the congenial group will be housed close together. It does not insure a guest who arrives without a reservation a place to stay.

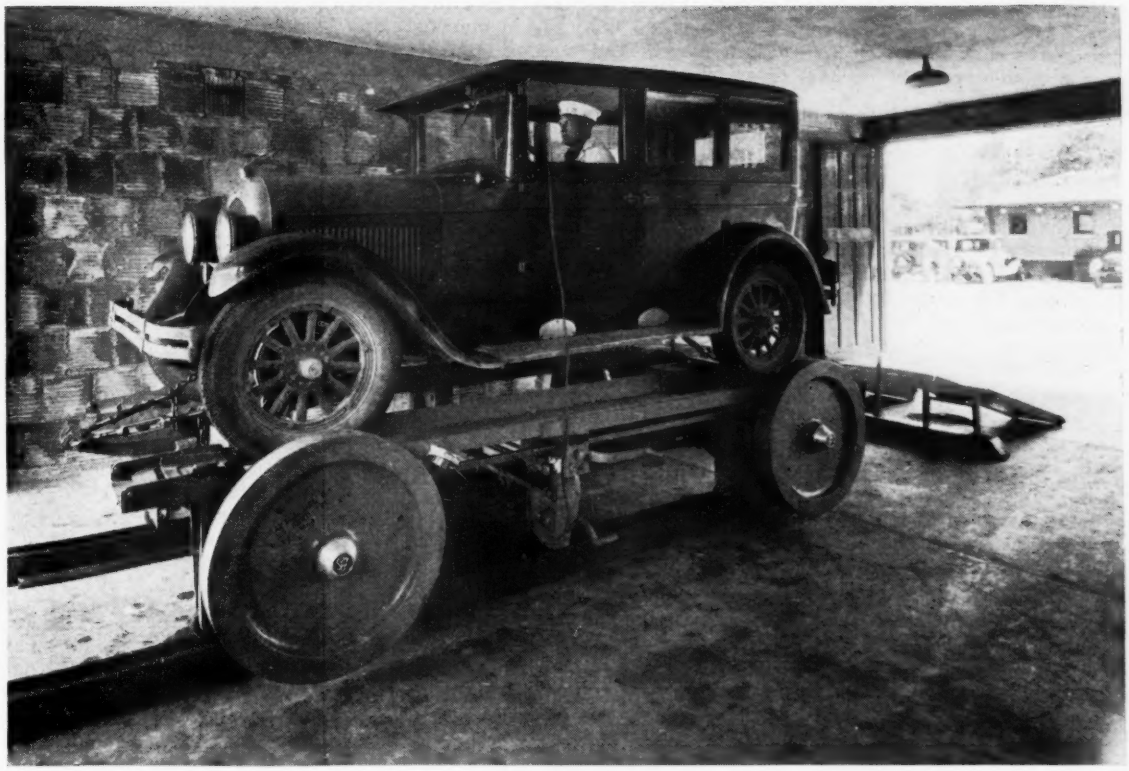
Mr. Harrington has advised his members reservations can be made by communicating directly with the hotel or by writing to association headquarters. Any special service the Chicago office of the association can give will be cheerfully handled for out-of-town members, he said.

Thus far, the two head line speakers for the meeting are Hugh P. Baker, director of the trade associations department of the United States Chamber of Commerce, and Gustav Egloff of Universal Oil Products Co., Chicago. Mr. Baker's address will be on "Your Trade Association and You." Dr. Egloff's will be on "Progress and Development of Anti-Knock Motor Fuel."

Actual assignment of rooms for 34 exhibitors had been made Nov. 1. A great many others have tentatively spoken for space. Several exhibitors have made known their desire for exhibition space who have not completed contractual arrangements, it is said. Nearly all of the 34 exhibitors have made some plans about giving away prizes to the oil men at the meetings, independently of the prize drawings discussed on page 37 of the Oct. 31 issue of NATIONAL PETROLEUM NEWS.

The 34 exhibitors who have been assigned space, are:

Pennsylvania Petroleum Products Co., Providence, R. I.
May & Malone, Inc., Jewelers, Chicago.
National Steel Barrel Co., Cleveland.
Northland Oil Co., St. Paul, Minn.
Nubian Paint & Varnish Co., Chicago.
Sharpsville Boiler Works, Sharpsville, Pa.
Shaffer Oil & Refining Co., Chicago.
Aetna Sales Co., Baltimore, Md.
National Safe & Lock Co., Chicago.
Globe Machinery & Supply Co., Des Moines, Ia.
Calumet Refining Co., Chicago.
Battenfeld Grease & Oil Co., Kansas City.
Julian Pump & Manufacturing Corp., Jamestown, N. Y.
The Graver Corp., East Chicago, Ind.
Bodie-Hoover Petroleum Corp., Chicago.
St. Louis Can Co., St. Louis.
Milwaukee Tank Works, Milwaukee, Wis.
H. M. Gousha Co., Maps, Chicago.
Linsay-McMillan Co., Milwaukee, Wis.
S. F. Bowser & Co., Fort Wayne, Ind.
Amco Sales Corp., Chicago.
Bennett Pumps Corp., Muskegon, Mich.
United Supply Co., Canton, O.
Warner Mfg. Co., Minneapolis.
National Cantube Co., Chicago.
Merit Oil Equipment Co., Cleveland.
Romort Mfg. Co., Oakfield, Wis.
Robert M. Schrayer & Co., decalcomanias, Chicago.
National Sign Co., Kokomo, Ind
Bonnet-Brown Co., sales helps, Chicago.
Multiples Display Fixture Co., Chicago.
Consolidated Electric Sign Corp., Battle Creek, Mich.
Cahill Bros., flood lights, New York City.
Pittsburgh Equitable Meter Co., Pittsburgh.



Chrysler automobile having its brakes tested on Brakes Synchrometer in super service station of Gafill Oil Co., at South Bend, Ind

Testing Led to Complete Brake Service

By Ward K. Halbert
N. P. N. STAFF WRITER

BRAKE service is a proper function of the oil station, in the opinion of Bruce Gafill, head of the Gafill Oil Co., South Bend, Ind. Early this summer, Mr. Gafill put a brake testing machine in one of his South Bend stations. Since then the public has persuaded him to supply a complete brake service, including adjusting and relining brakes.

That department of Gafill Oil Co.'s business has not developed far enough yet to show how well it will pay or what volume of business may be expected from the town. Mr. Gafill is not expecting too much from it. He has only bought one tester, but it made such a hit with his trade that they asked him to do the whole job and he has installed the other necessary equipment.

If the experiment turns out well, brake service departments will be installed at other towns where the company has stations. Indeed, if the demand justifies the investment, more than one brake service shop may be installed in South Bend. It has a population of at least 100,000.

Brake testing is not entirely new to the oil marketing business, but a complete brake service is unusual. Operators of super service stations have installed brake testers in considerable numbers and, in big cities, a few of them have prepared to adjust and reline brakes for profit. But Mr. Gafill is the first oil jobber to take it up, so far as can be learned.

The company has been doing business in South Bend for 13 years. It has bulk stations and branch sales offices at Elkhart, Ind., and at Niles and Benton Harbor, Mich. There is probably no oil jobber in the country better prepared to carry through on the proposition than Mr. Gafill, if his experiment proves successful, because nearly every one of his sales stations has plenty of space.

It has long been a policy of the company to build stations only on large tracts of land. A few of the early service stations are still operating and showing a profit on small sites, but in recent years Mr. Gafill has not considered a site of less than one-eighth of a city block—a quarter of a block being preferred.

Pursuing this policy, Mr. Gafill has procured some valuable and well situated pieces of real estate. As real estate investments they have been good, but the main point is that he is ready now to meet the "super service station movement" with an open mind. If the oil marketing business is to require super service stations, he has plenty of corner lots with two sides to paved streets and a third side to an alley.

With all this available space, Gafill Oil Co.'s management has never gone in for freakish services. Until the brake service was installed late in October, 1928, Gafill stations have never sold anything except petroleum products and alcohol for radiators in winter. It has operated complete lubrication stations for about six years and has maintained a free thawing service for frozen automobiles about the same length of time.

Being a well established and well known marketing organization in the community before launching the complete lubrication service, Gafill Oil Co. was "on the ground floor" and profited from the greasing business from the start. The thawing service brought a few direct returns and numerous indirect benefits.

The presence of a motor thawing establishment in town is a decided stimulant to winter motoring, company officials say. It indirectly increases winter gasoline consumption. Moreover, when a customer has a frozen radiator thawed out he is in an ideal frame of mind to buy alcohol for it, to avert a repetition of the accident. In the same way, if he has an oil pump thawed out he is sure to recognize the need of having fresh oil put in his crankcase.

The steaming has greatly stimulated the sale of transmission and differential lubricants. By heating the gear housings, all the old, hard

grease is removed, making room for more that is fresh and new. Besides, it makes the gears operate better and thus keeps the customers sold on the idea of seasonal changes.

Although Gafill Oil Co. pioneered in both these services in the region where it operates, and although both were profitable, the company did not go in for automobile laundry service when a great many other oil men did about four years ago. Mr. Gafill has never been persuaded that washing cars is a proper function for an oil station. Having passed that by, it is all the more interesting that he has been first to accept brake service.

Because the land was available and the new service did not require any additional real estate investment, the brake service shop has been installed at a down-town station in South Bend. It is not in the heart of the retail shopping district; although the company has a service station so situated, the ground there is completely occupied with gasoline sales, lubrication service and steaming.

The brake service department is in the station at Madison and Michigan streets, exactly one block north of the city's newest and largest hotel, The La Salle. The lot is 99 by 165 feet. It fronts two streets and an alley. The regular service station building stands (like all of Gafill's newer stations) well inside the property line. It has two wide drives between the front of the building and the street. Between the two drives is a concrete island carrying five gasoline pumps. And both drives are inside the city's sidewalk and parkway.

Back of the gasoline station, on the alley at the other end of the 165-foot lot, is a much larger rectangular building of the same material as the filling station and along the same architectural lines. This building houses the greasing, steaming and brake services. It also is well inside the property line, not flush with the alley. This allows plenty of space for customers driving off the grease pits to make a convenient turn out the door and to the street by way of the alley.

The complete service building covers nearly the whole width of the lot on the side adjacent to the alley. It is divided into three main parts.

The end of the building nearest the street is used for office and storage space. This small section is divided into three rooms. The first is an office and oil room where the necessary records are kept and where rectangular tanks surround the wall and provide available stocks of six brands of motor oil.

The second is a room for machinery. It houses a gas heater and boiler, providing hot water and steam to the thawing service, and a large air pump and vacuum tank for the vacuum cleaners. Vacuum is piped to four points in the greasing department where a vacuum cleaner on a long hose may be connected up quickly with the suction and a man may clean the upholstery of a customer's car no matter which of the four pits it is on.

Between the oil room and the machine room is a hall, and off the hall is a modern toilet room. The hall is large enough also to house lockers and hooks for the workmen's good clothes which they wear to work. The rest of the service building is divided into two sections. Each section is big enough to house eight automobiles at once, and each section has two front doors opening on the station lot and two back doors opening on the alley. The doors are of wood and are the kind that roll up overhead.

One of these sections is the greasing and steaming department. It has four grease pits of the two-car length. This arrangement never causes any delay because of the double door arrangement. When a customer's job is finished he can back it out the door where he entered or drive straight out the back door, depending on whether his fellow customer on the same pit is in front or behind him.

Details of the greasing and steaming business at Gafill Oil Co. stations were told in NATIONAL PETROLEUM NEWS about a year ago. The story appeared on page 30 of the issue of Sept. 7, 1927. The brake testing department occupies the second of the two big compartments of eight-car capacity.

Mr. Gafill saw fit to buy a "Brakes Synchrometer" when he first installed the brake testing service. The machine costs close to $2000 and is among the more simply constructed of the several brake testers now on the market. A picture of the machine is shown accompanying this story.

Briefly described, the synchrometer consists of an elevated track which an automobile may reach, via a ramp. In the track are four metal drums and joined to each drum is a steel flywheel weighing between 800 and 1000 pounds. All flywheels are geared together but they can be thrown out of gear and permitted to turn independently at the will of the operator.

When a set of brakes is being tested the automobile stands anchored in position with its wheels resting on the metal drums. The owner of the car operates it just as if he were on the road. When the speedometer on the dashboard indicates the speed that the motorist is accustomed to drive, he releases his gear and applies his brakes. The flywheels (set in motion by the wheels of the automobile) are thrown out of gear at the same time and permitted to revolve independently.

Thus operating, the flywheels have no resistance except that of the automobile's brakes. Dials connected with the flywheels show, in the case of each separate wheel, how many feet it will roll on the road after the brakes are applied. With this information, the operator can adjust the brakes until they are equal or at least have a correct relation to each other. The work is done on the brake tester and readings may be made from time to time to guide the workman.

Gafill Oil Co., has employed a man skilled in the brake service business, and placed him in charge of the department. The entire eight-car compartment of the service building has been given over to brake tester and shop. Machinery has been bought which cost close to $200 in addition to the brake tester, and a sizable stock of brake linings has been laid in.

The Gafill Oil Co.'s shop makes no charge whatever for brake testing. Adjustments are made on the spot for 50 cents a wheel, so that an all-around adjustment involving every wheel cannot cost more than $2. Relining costs all depend on the time and the material involved.

Mr. Gafill relates that the brakes synchrometer was developed in Boston and there manufactured exclusively for some time, but it has been arranged lately that the Dodge Manufacturing Co. of Mishawaka, a suburb of South Bend, Ind., will make the testers to supply nearby territory.

Hubbell, San Francisco Paint Man Dies

(By Telegraph)

TULSA, Nov. 6.—Russell Harry Hubbell, for many years president of Hill, Hubbell & Co., San Francisco, died Nov. 4 at New York. He was stricken suddenly in his rooms at the Biltmore Hotel by a heart attack and died immediately.

Mr. Hubbell was the originator of many improvements in methods used for applying protective coatings to pipe lines. One of the most important was an oil burning equipment for preparing hot coatings and he had recently introduced coating and wrapping machines. Less than a month ago Mr. Hubbell's company was merged with eight other well known paint companies of the Pacific coast into the General Paint Corp., of which he was made vice-president in charge of the eastern division.

Mr. Hubbell is survived by his widow who lives at San Francisco. His body is being taken to that city for burial, accompanied by E. S. Browning, Tulsa district manager who was with him at New York when he died. Mr. Hubbell was 49 years of age.

Ohio Cities Join "Lubrication Week"

CLEVELAND, Nov. 3

FINAL plans and details for Ohio Lubrication week—Nov. 17 to 24—are being shaped by officials of the Ohio Petroleum Marketers Association. Layouts and mats for the cooperative newspaper advertising programs are being distributed. The volume of orders for banners to carry on oil company trucks and stations at this time is twice that expected by officials.

The same full page newspaper advertisement will appear the same day in Canton, Akron, Cincinnati, Dayton, Youngstown, Columbus, Springfield and in approximately 25 smaller cities, according to present plans. This will launch the campaign before the public. Cleveland oil companies are mapping out a cooperative advertising program also.

The advertising over the state is to start about Nov. 14 and continue with small sized advertisements two or three days. W. A. Milne, executive secretary of the Ohio association, is going about the state with copies and mats of the advertisements, showing them to oil companies.

Orders for the printing of 10,100 banners have been placed. These banners are two by three feet, printed on heavy, fiber, water proof paper with eyelets.

Oil companies are being advised to put up the banners Nov. 12, to tie in with the newspaper advertising and to get the public "lubrication conscious" before Nov. 17. Companies are to put up two banners on tank trucks and at least two banners at stations.

In five of the larger cities folders will be passed out to station customers.

One of the problems coming up before officials of the state association is that of what companies should be allowed to participate in having their names affixed to the cooperative advertising programs and in receiving the banners. In some cities only those companies fully equipped to give complete lubrication service are being allowed to participate.

This course has been taken to insure satisfaction on the part of the public which is prompted to buy lubrication service because of the special week. The method of determining what companies will be allowed to participate in the cooperative advertising has been left up to the local oil companies.

In other cities all oil companies are being allowed to join in the advertising program.

Following is the text of an advertisement to be used by the Western Reserve Petroleum club in Cleveland, to follow the style of the advertisement illustrated:

"Nov. 17-24 is the week set aside by the Ohio Petroleum Marketers Association to prepare your car for winter.

"Wear and tear on motor chassis is from two to three times greater in winter than in summer. Lubrication requirements are therefore in proportion.

"Have your car completely lubricated now—every vital friction point should be serviced—the transmission and differential flushed and replenished with cold weather lubricant."

Summer Grease Makes Winter Shifting Hard

NOW is the time for WINTER LUBRICATION

LUBRICATION WEEK NOV. 17-24 has been set aside by the Ohio Petroleum Marketers Association as a time to prepare every car for winter driving.

Now before cold weather sets in have the differential and transmission gears thoroughly flushed and re-lubricated. Protect these precious points that mean the life of your car.

Visit your favorite station today.

WESTERN RESERVE PETROLEUM CLUB

These Organizations are Equipped to Render Complete Lubrication Service

A newspaper advertisement to be used in the cooperative advertising program by the Western Reserve Petroleum Co. in Cleveland

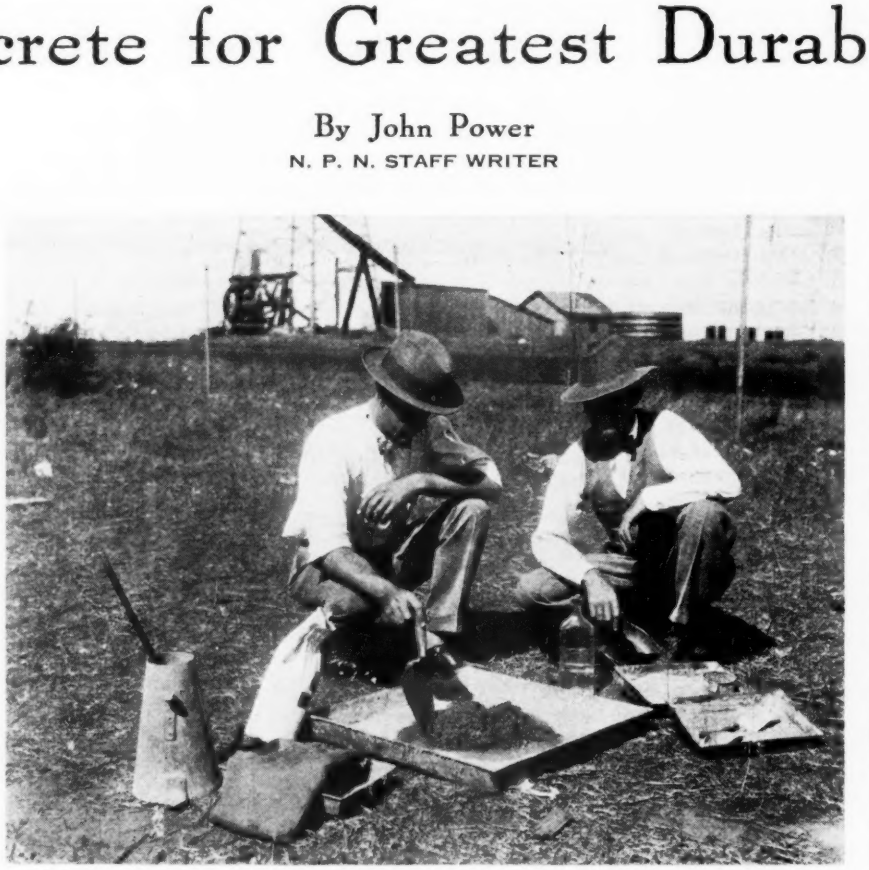
Field School Teaches How to Mix Concrete for Greatest Durability

By John Power
N. P. N. STAFF WRITER

EARLSBORO, Okla., Nov. 6 DIRECT savings in oil field operations have come about through using the correct mix of concrete for its various oil field uses.

Methods of mixing and handling concrete to secure greatest efficiency are being taught oil company field men in schools conducted by the Portland Cement Association.

Strength, durability, economy, these three combined, make the yardstick by which the efficiency of concrete designed for a given job is measured.



R. S. Phillips, engineer for the Portland Cement Association, demonstrating a trial mix of concrete to John Taylor, assistant superintendent of steel storage in the Mid-Continent for the Prairie Oil and Gas Co. The Prairie has been experimenting with concrete bottoms installed in old tanks, and Mr. Taylor brought samples of the aggregate to Earlsboro with him from Caney, Kansas, to consult with Mr. Phillips as to the best proportions in which they might be used

Methods of determining and developing each of these qualities were explained to field men in the Earlsboro field the nights of Oct. 8 and 9 by R. S. Phillips, an engineer for the cement association. Similar schools have been conducted in various districts in Texas and Oklahoma the past year.

The Earlsboro school was under the auspices of the American Petroleum Institute division of development and production engineering, and was attended by more than 100 field men, employed by various operators throughout the Seminole district.

The meeting was the first of a number of field meetings planned by this division of the A.P.I. W. K. Whiteford, petroleum engineer for the Barnsdall Oil Co., and secretary of the Mid-Continent section of the A.P.I. division, was host for the institute at the meeting, and did the honors for his company, at whose splendid Earlsboro camp visitors to the school were entertained.

With given materials and mixing conditions, research in concrete has proven that the strength of concrete is determined solely by the ration of mixing water to the volume of cement, so long as the resulting mixture is plastic and workable, Mr. Phillips explained. Concrete is a mixture of cement, water, sand and stone, the latter two, known as aggregate, being held together by the cement and water, which combined form a paste deriving its strength from the chemical action of the water on the cement, known as hydration.

As the addition of excess water only serves to dilute the cement paste, and therefore weaken it, designing a concrete mix of a given strength consists in selecting the water-cement ratio corresponding to that strength, and finding the most suitable combination of aggregates which will give the desired workability when mixed with cement and water, combined in this ratio.

The accompanying graph shows the relative strength per square inch of concrete mixed with varying water-cement ratios, the figures at the bottom being shown as percentage, and those at the top showing gallons of water per sack of cement. The resulting strengths are shown at the side of the graph.

These figures have been arrived at after thousands of experiments, extending over a period of years at the laboratories of the Portland Cement Association in Chicago. The various qualities or strengths of concrete are designated by the load in pounds per square inch the mix will carry when cured or hardened, such as a 1500-pound concrete, a 2000-pound concrete, etc.

The cost of a concrete in place is determined by the total cost of the component parts of the mix, delivered at the job, plus the labor cost of mixing and placing. As it is the coarse aggregate which gives a concrete its bulk, and as the cement is the most costly ingredient in the mix, experiments with the materials most cheaply available should be conducted to determine the ratios which the ingredients should bear to each other to give desired results.

In many cases these experiments have shown that materials at hand would prove more expensive in the long run than imported sand and stone, as these would more than offset the cost of transportation by the added durability they would give to the concrete.

A mix of concrete is designated by the ratios that the cement bears to the sand, or fine, and that the latter bears to the stone or coarse. Thus a 1-2-4 mix is one in which the ratios are one sack of cement to two cubic feet of sand to four cubic feet of stone. When designing a mix by trial, for a concrete with a given strength, the measurements of the water, cement, sand and stone or gravel should be very carefully made. As the water-cement ratio has been determined by the required strength allowances must be made for free water in the aggregates, as this water becomes a part of the mixing water.

Following are the average amounts of free water in the average moist aggregate, as determined by experiments conducted by the Portland Ce-

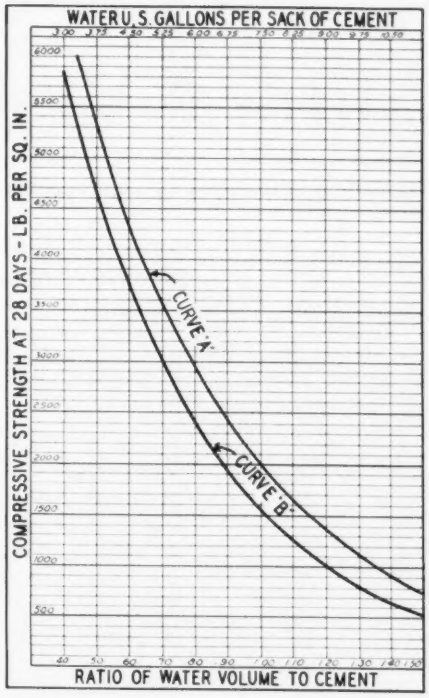
ment Association. Very wet sand will contain from three-quarters to one gallon of free water per cubic foot; moderately wet sand will contain about a half gallon; moist sand will contain a quarter gallon; moist gravel or crushed stone will contain a quarter gallon.

The trial batches of concrete should be made, using the correct amount of mixing water, from which any necessary deductions have been made according to the above figures, to determine the combination of sand and stone which will give the desired workability, at the least cost for materials and labor. The proper mixture is generally one which will puddle freely without a segregation or sinking of the coarser materials. While care should be taken to avoid under-sanding as this will produce a harsh mix likely to be lacking in durability, only enough sand should be used to produce a smooth, workable mix.

Should it prove necessary to add water to the mix to get it plastic enough to handle under field conditions, then a corresponding amount of cement must be added to retain the specified strength. For example, if it is found necessary to use seven gallons of water to get a mix of available materials plastic enough, when a six gallon water-cement ratio had been decided upon, the cement used would have to be increased 1/6 of a sack in the mix ratio. Thus, a 1-2-4 mix, with seven gallons of water used instead of the specified six gallons, would call for a 1 1/6-2-4 mix to keep the concrete at the required strength, as the water had been increased 1/6.

The durability of concrete is affected principally by three agents; frost action, alkali water, and ordinary water, through leaching and drying. The frost action, which freezes water absorbed after the cement has supposedly been cured, causes an expansion and contraction within the concrete, an action which in turn causes the particles in the concrete to slough off a scale, thus allowing room for the absorption of more water. Alkali or sulfate water, is similar in action to frost. The alkali crystals deposited by absorbed water force the concrete to shove off scale.

It is possible, by proper curing, or hardening to make a water-tight concrete, thus preventing the above action. This is brought about by permitting as perfect a hydration of the cement as is possible, a process that is almost continuous so long as there is a remnant of the mixing moisture left in the concrete. Immediately the concrete is in place, no more water can be mixed with the cement, so that it is possible to keep the concrete from drying out too rapidly by keeping it wet down. In concrete that has been too hurriedly cured, the top layer will be dried out long before the heart of the concrete, resulting in a top layer which is brittle and apt to crack.


WATER U.S. GALLONS PER SACK OF CEMENT
COMPRESSIVE STRENGTH AT 28 DAYS - LB. PER SQ. IN.
CURVE 'A'
CURVE 'B'
RATIO OF WATER VOLUME TO CEMENT

This graph shows the effect of the quantity of mixing water on the compressive strength of concrete. The curves are based on average values from nine series of tests made over a period of four years by the research division of the Portland Cement Association. Curve A is to be used for design where the water-cement ratio is carefully controlled by accurate measurement of quantities of water, cement and aggregate, with proper correction for water carried by the aggregate. Curve B is to be used where the water-cement ratio is indifferently controlled and where only rough methods are used for measuring quantities of materials.—From "Design and Control of Concrete Mixtures," published by the Portland Cement Association

In mixing the concrete, the time element is important. The cement, sand and gravel should be mixed first, and then the water. At least one minute of mixing is the least that should be given, and in cases where the concrete is to be exposed to severe conditions, it is possible that the increased quality may be gained by adding to the length of mixing time. When possible, concrete should be mixed by the batch, rather than continuously, as the former method permits a closer watch of proportions than does the latter, thus aiding in keeping the concrete at a uniform quality.

New Oil Club in Ozarks

Tulsa, Nov. 5.—The Ozark Petroleum club of Springfield, a newly organized group of oil jobbers in southern Missouri will hold its first regular meeting at the Colonial hotel, Springfield, Nov. 12. The club was organized Oct. 19. W. R. McCain is president of the club. E. E. Haskett is vice president and Harry Cowell, secretary and treasurer.

Magnolia Pipe Line Runs Aug.-Sept.

HOUSTON, Nov. 2.—Magnolia Petroleum Co., pipeline department, announces from Dallas headquarters the following crude oil runs for September, which are shown in comparison with August:

	August	September
Hewitt-Graham	154,807.32	142,477.73
Healdton	250,013.02	227,175.08
Cushing	127,066.79	119,813.47
Yale	48,999.52	44,190.10
Duncan	41,158.41	41,309.71
Augusta	38,686.18	34,906.10
Walters-Beaver Creek	9,727.87	8,622.00
Burbank	83.60	.....
Wewoka	867,887.62	1,017,318.77
Seminole	120,375.88	91,078.50
Cement	.....	.....
Total Okla.-Kans.	1,658,806.21	1,726,891.46
Archer	27,957.05	27,086.35
Burkburnett	71,743.01	65,664.27
Comanche	19,399.57	18,484.59
Electra	103,900.06	99,350.84
Corsicana Heavy	9,389.25	8,542.77
Corsicana Light	13,872.64	11,977.03
Henrietta	2,552.38	2,737.14
Howard County	31,438.90	30,601.48
Luling	347,195.61	340,610.11
Lytton Springs	50,891.12	46,948.37
Mexia-Wortham	29,562.61	26,588.93
Mirando	112,334.33	145,903.99
Olden	9,928.31	9,424.07
Panhandle	114,659.62	99,678.35
Panola	1,305.07	1,178.40
Stephens	8,764.42	7,276.29
Thrall	1,077.61	1,086.14
Gulf Coast	863.40	421.02
Crane-Upton	380,141.52	345,068.93
Glasscock	70,805.70	117,846.38
Winkler	105,409.57	76,527.44
Total Texas	1,513,191.75	1,483,002.89
Haynesville	3,884.64	2,870.79
Bull Bayou	42,880.13	42,840.91
Cotton Valley	25,015.97	22,075.32
Pine Island	30,950.13	30,229.49
Hackberry	62,192.85	51,613.30
Total Louisiana	164,923.72	149,629.81
El Dorado Light	15,399.76	14,160.99
East El Dorado	4,553.22	3,498.23
Smackover	85,832.62	79,632.92
Rainbow	53,458.19	70,977.04
Total Arkansas	159,243.79	168,269.18
GRAND TOTAL	3,496,165.47	3,527,793.34

OKLAHOMA-KANSAS

Report for September		Dly. Avg.
Runs	2,021,613	67,387
Shipments	1,992,678	66,423
TOTAL STOCK	8,805,178	.....

TEXAS

Wichita, Wilbarger, Archer,		
Runs	211,968	7,065
Shipments	267,169	8,906
Petrolia,		
Runs	2,737	91
Shipments	2,737	91
Eastland, Stephens,		
Runs	35,185	1,173
Shipments	.....	.....

TOTAL STOCK, 268,898—North Central Texas Field.

Anson Visits Texas Plant

Tulsa, Nov. 5.—Arthur Anson, president of the Altitude Petroleum Co., has just returned from Big Spring, Texas, where he visited the plant of the Big Spring Refining Co. The Altitude sells the output of this new West Texas plant.

L. A. Lynd Promoted

Tulsa, Nov. 5.—L. A. Lynd has been made an assistant treasurer of the Empire companies at Bartlesville. He will work in conjunction with H. E. Butcher, also assistant treasurer. Mr. Lynd has been in the treasury departments of the companies since 1919.

The Editors' Viewpoint

National Petroleum News

U. S. Buys "Tax Free"

THE courts more and more holding that the state gasoline tax cannot be collected on sales to the federal government, it is likely that oil marketing companies will soon have to find some method to protect themselves from paying the tax on such sales as a part of the tax paid at the source on all their gasoline receipts.

Some months ago the U. S. Supreme Court, in the case of Panhandle Oil Co. vs. Mississippi, held that the state did not have the power to levy and collect a tax on gasoline sold by a dealer to the federal government. More recently, in Nebraska, a federal judge issued a decree permitting the government to buy gasoline tax free in that state.

It is said that information is now being sent out from Washington to governmental agencies over the country to the effect that, no matter what the form of the state's gasoline tax may be, the governmental agency need not pay it.

One authority on the gasoline tax laws, Hubert C. Fuller, of the law firm of Chamberlin, Marty and Fuller, Cleveland, offers the following suggestion as to how the oil company may meet this situation in states where the tax is paid on gasoline receipts.

"In our opinion, oil companies, in making their returns to the authorities showing the amount of gasoline upon which the tax is applicable, should deduct the amount of gasoline sold to the United States government, or any of its officers or agencies," says Mr. Fuller.

In short, his advice to the oil company is not to try to collect the tax on sales to the government and not to pay the tax, either, in reporting to the state. In the face of a supreme court decision on the subject he is of the opinion the state will not attempt to collect the tax from the oil company.

A few states, Ohio among them, exempt from the gasoline tax sales to the government. In most states, however, there is no such exemption. Mr. Fuller points out that the supreme court decision should not be interpreted as exempting from the gasoline tax, sales to those performing work under contract with the government or its agents.—V. B. G.

A Problem For All

THE vast West Texas crude situation, which has been thought of so far solely as a problem for the big companies and their pipe lines entering those enormous fields there, is now blossoming into a serious problem for the whole oil industry.

Or perhaps, more strictly speaking, the situation has shaped itself to the point where it can be easily recognized by all in the industry, producers, refiners and marketers everywhere, as offering each of them a problem.

Up to the present time the big companies have been fighting the tremendous production possible from that territory—as large as the state of Ohio and lying a bit to the east and north east from El Paso, to state it roughly. These big companies have worked out and applied quite successfully restrictive measures to the development of the district and to the production of the wells themselves. At first the surplus oil was held in steel storage and then, as pipe lines were built, it was brought out. Refineries were started and this winter more refineries will be in operation there and more crude will come out by pipe line.

This is about the cheapest crude in the country, selling at the well at 65 cents a barrel, half what most of Oklahoma's crude sells for. This Texas crude is strong with sulfur but good refining methods can and do remove it. The gasoline has a high anti-knock value, and there is more of it that can be produced right now from that West Texas district than the whole state of Oklahoma produces at the present time.

The big companies operating with this crude realize the seriousness of the situation and the vast importance of the decision which is theirs to make. They have shown their conservative regard for the rest of the oil industry by their restrictive production arrangements, which have been made under the jurisdiction of and with the consent of the state authorities of Texas. But the output has been growing and growing until now it is coming in formidable amount and, shortly, much of it will be passing through refineries which have recently been built in and near that country.

The desire of the big companies in West Texas, we know, is to try control the output of this crude and its products so as not to disturb markets elsewhere but there is the rub. Oklahoma refiners do not need any more crude to take care of their markets for the coming year. They can get all the additional crude they need from that state. Kansas and North Texas and Louisiana and Arkansas are in substantially the same shape.

The markets supplied by the Mid-Continent refiners will only increase a definite percentage, say 12 per cent to 15 per cent, roughly. The additional refinery products coming from this West Texas crude will eat pretty heavily into that percentage, to say the least. Perhaps it may absorb all of it.

Will the Mid-Continent refiners be satisfied to stand on this year's output in the hopes of a good price resulting? Or will they seek an increase, and if so how much of a one, and how much in lower price will they be willing to pay for that increase?

How much can the big companies interested in West Texas dump into the domestic, and the export market too, without upsetting the balance of supplies to the extent of breaking domestic markets and even backing up gasoline in big company tankage along the Atlantic Coast?

The problem will probably be attacked a bit at a time—on the "trial and error" basis; but one thing is certain, if it is not most constructively handled by all the companies from West Texas to the Atlantic coast, the industry can have a poor year in 1929. And that poor year could easily extend to the marketer in the fight that might result to get gallonage.

Oil producers in the Southwest have looked longingly

this summer at the good prices for refinery products—except fuel oil—and have wondered and talked about a raise in the price for crude. There are two facts working against such an increase; one a continued surplus of crude and, two, this West Texas situation with its 65-cent crude.

We won't try to predict the outcome, but one thing is certain, the discussion of conservation of petroleum and its products at the meeting of the American Petroleum Institute in December should be more serious and thorough than ever before.

Perhaps present conservation plans cannot be developed further at that meeting, but at all events a thorough and detailed discussion there will go a long way toward warning and educating every oil man, so that he may make his own individual acts in relation to West Texas and all it portends, most intelligent—W. C. P.

Safety Fostered

Every new man put to work by the General Petroleum Corp., in the renewed field development of the Los Angeles Basin, has been cautioned to practice Safety. He has been handed a set of accident prevention rules and told that, if practiced consistently, they will reduce the accident hazard to him to a minimum.

The General's production department has been consistently cutting down its record of lost-time accidents under the continued and steady program of drilling recently followed. Now that deep drilling at Santa Fe Springs is quickening the company's field work materially, it will be interesting to watch whether the influx of new men and rushed operating conditions tend to upset the gains in Safety previously recorded.—P. W.

Alemite's Correction (?)

THE Alemite lubricating people have now corrected (?) a statement in their advertisement in the Sept. 15 issue of the S. E. Post, to which statement we objected as never having been proved to be true, and, in our opinion could not be true. The Alemite people are to be commended in their promptness to try and correct errors in their mud-slinging advertising.

In their advertisement of September 15, the Alemite people said that "80 per cent of all repair bills is due to improper lubrication." In their full page advertisement in the October 27 issue they have corrected (?) that to read "protect against grinding, noisy, worn down gears—avoid 80 per cent of repair bills." From which one might infer that engine, valves, timing, shackles, brakes etc., represent only 20 per cent of the lubricating problem, or, if not properly attended to, can represent only 20 per cent of "all repair bills."

And the Alemite people have the nerve to ask their customers to "regard" the foregoing as "a scientifically founded warning," whatever that is as compared with a fact.

False, misleading and mud-slinging advertising has been the curse of good advertising and the curse of the industries in which it was used. There has been enough of it in the oil business, but fortunately, the wave of it seems to have passed. The Alemite crowd appear to be the last to use it. In their opening ad of this campaign to which we referred the other week, Alemite so phrased its advertising as to attack the good name of practically every other grease being sold to the consumer.

Alemite owes a great deal to the oil companies for pushing the sale of their lubricating fixtures, enough to show some decency, at least, toward them. We have received many letters from oil men approving most vigorously our condemnation of this unfair advertising of Alemite. We recommend that all such kinds of unfair advertising be condemned by the state marketing associations and be referred to the committee on marketing and code of ethics of the American Petroleum Institute—W. C. P.

Let's Halt This Now

THE west Texas and New Mexico oil fields are becoming infested with another type of serpent than the native rattlesnake. It is the oil stock promoter.

Recently NATIONAL PETROLEUM NEWS has been receiving more inquiries from readers and friends of readers who ask about the market value of this or that oil stock. In the last few days of a score of inquiries only one was about a strong reputable organization. This company had changed its name in the process of a consolidation with another good company three or four years ago. The great majority of questions are about companies which cannot be traced even through the hectic days of promotion five to ten years ago.

And now comes the new companies which are selling "fortune crusades" in west Texas, the Panhandle, and New Mexico. They have acreage in counties whose names have appeared in print a great deal the last year. High pressure selling is directed at gullible people who, having failed to lay aside a competence, are grasping at straws in the treacherous river of speculation. Only the salesmen do not call it speculation; they miscall it investment. Here is a sample of one request sent by a New England oil man:

"We have some friends, a very old couple, man and wife over 70 years of age. The wife is losing her eyesight and they had a little money saved up. The husband has put the money into these stocks."

He enclosed three circulars, two with bombastic claims of impending wealth and the third with a weak alibi why the dividend check had been delayed. Texas tax records show only the operator tardy with the dividends had production.

These companies are operating out of Fort Worth and Amarillo. If you receive a circular with flaming language, Mr. Oil Man, turn it over to the postoffice department. If a glib salesman calls on you with extravagant promises of quick wealth, call the Better Business Bureau or the district attorney.

Above all, obey the plea of the Better Business Bureau, "Investigate Before You Invest."

And if still in doubt, ask your banker how much money he will loan with the particular stock as collateral.—R. B. S.

OCCASIONALLY we get letters and other communications, generally a complaint against something which the sender fails to sign. We follow the same policy that all reputable publications do and pay no attention to anonymous communications. They go into the waste-basket.

Anyone signing a communication can also add the injunction that they don't wish their name published in connection with any information in that communication and their wish will be respected. Communications which people do not think enough of to put their names to will go into the waste-basket.

The Mid-Continent Skyline

By Lawrence E. Smith

National Petroleum News

IN CONNECTION with the election of T. A. Dines, chairman of the board of the Midwest Refining Co., to be president also of that company, memory is revived that John D. Clark, whose resignation as president was accepted, is pursuing his avowed intention of getting some more education. The case has caused considerable discussion among those who know Mr. Clark. He devoted years to corporation work, first as counsel for the Midwest, then as vice-president and assistant to the chairman of the Standard Oil Co. of Indiana, then president of the Midwest.

Several months ago he created a mild sensation by announcing that he was going to enter Johns Hopkins University for a post graduate course preparatory to teaching. The best comment we have heard came from a former associate of Mr. Clark's who said it was "interesting to find a man who has the courage to do what he wants to do."

* * *

The lately closed petroleum exposition brought to Tulsa several hundred golf enthusiasts who found adequate courses. The increase in population of the city however, and the gain in the army of golfers is making it necessary to get more room. Hence a new country club springs up every little while. The latest is the Lakeside club, which already has an 18-hole course seven miles east of Tulsa on the Claremore road. It is recruiting members and will build a club house. Among oil men interested are W. C. Franklin, vice-president of the Tidal Oil Co.; E. C. Catlett, producer; Samuel J. Caudill, engineer; J. H. Campbell, engineer and J. I. Fowler, Carter Oil Co., all of whom are members of the board of governors.

* * *

Oil field employes, as well as those who live in towns some distance from Tulsa will soon get better radio service. Station KVOO (K-Voice Of Oklahoma) will step up to 5000 watts early in November. Considerable money is being spent on this station by owner W. G. Skelly, both in increase in range and in betterment of programs. Probably no one knows better than Mr. Skelly how much radio means to the family out on the lease.

* * *

Retort of a Tulsa waitress to customer who complained of the smallness of the pie order: "We guarantee to feed you but not to fatten you."

C. P. DIMIT
General superintendent of the Gypsy Oil Co.

It is well that C. P. Dimit, general superintendent of the Gypsy Oil Co., finally got in his vacation. With 30 or more wells to be drilled by this company in the Mission pool when the restrictions are removed on Nov. 15, Mr. Dimit will be one of Oklahoma's most active citizens. The Gypsy discovered the field and owns the most acreage. Its penalty is that it has to drill most of the wells.

* * *

The passing of E. W. Marland as head of the company which has so long borne his name is of more than ordinary significance to the people of Ponca City. That thriving community, not long ago merely an Indian agency, owes its prosperity and its beauty more to the Marland Oil Co. than to any other single factor. Not only did Marland establish here a great oil company, with huge payroll, but he set about to lift the town from the plain, utilitarian appearance of most country towns.

His influence was exerted in home building, from the fine places that distinguish the town to those within the reach of average salaried employes. He retained architects and landscape gardeners whose services were available to the employes who could build only modest houses, to the end that these homes would be as fine as the money spent could make them. His own home is a show place. Many rare varieties of trees and shrubs adorn the large grounds. He has promoted recreational activity. His influence has been felt in many ways in the cultural life and increase in living standards of the community. No more beautiful town exists in the country than this community of 20,000 persons.

Mr. Moran, the new president, will find this community one that is pleasant to live in. The business men of the town are keenly interested in the success of the company. Rumors have persisted that the Marland company would be acquired by one of the major companies, which would make Ponca City merely a branch office. Naturally, the town is happy that the company is to continue under its own banner.

* * *

Hobart, Okla., harbors a modest man. W. C. Kelsay, banker, was asked to give his name to a new town that is being promoted east of Hobart where a little boom based on an extension to the old Gotebo field. "Nothing doing," said Kelsay, "we are not going to have any 'Kelsay's Alley' around here."

* * *

E. L. Estabrook, chief petroleum engineer for the Pan-American and affiliated companies, managed to get in a day or two at the exposition. He now travels quite a circuit. Venezuela and Mexico are on his regular calling list and sometimes he gets to making the rounds so rapidly that centrifugal force throws him into West Texas. He gets an occasional week at home, which is in one of the Oranges of New Jersey. He found life much simpler when he lived in Casper and had Salt Creek, 40 miles away, as his major worry.

* * *

Directors of the petroleum exposition on the closing day let J. Burr Gibbons, the general manager, know that they were aware of the diligent and intelligent effort he had put forth. They gave him an engraved watch of high value. Mr. Gibbons will appear in the role of exhibitor at next year's show, as he became vice-president and general sales manager of the Oil Well Improvements Co. on Nov. 1.

* * *

At a recent meeting of state conservation agents, W. L. Chisholm, director of the mineral division of the Louisiana department of conservation, was elected president of the associa-

tion; W. J. Armstrong, chief conservation agent of Oklahoma, vice-president and H. J. Duncan, of the Muskogee office U. S. Geological Survey, secretary-treasurer. Eugene Hagan deputy agent of Tulsa district, was elected safety director of the association.

* * *

Charles L. Bullock, of Wichita, Kans., has been elected president of the Wichison Gas Co. and of the Rice County Gas, Electric and Power Co. Both are distributing companies. Mr. Bullock for three years has been with the Larutan Corp., now part of the Consolidated Utilities group, which has completed a 14-inch line from the Texas Panhandle and Sayre, Okla., fields to the original Larutan line at Deer Creek, Okla.

* * *

Max W. Ball's resignation as president of the Argo Oil Co. was effective Oct. 31. Mr. Ball was in Tulsa two days before that, arranging to open an office as consulting geologist and engineer. The office will be in the Exchange Bank building, ninth floor. Mr. Ball's principal office and residence will continue to be maintained in Denver—for a while, at least—although there is a little betting among his friends that he will finally be found living in Tulsa.

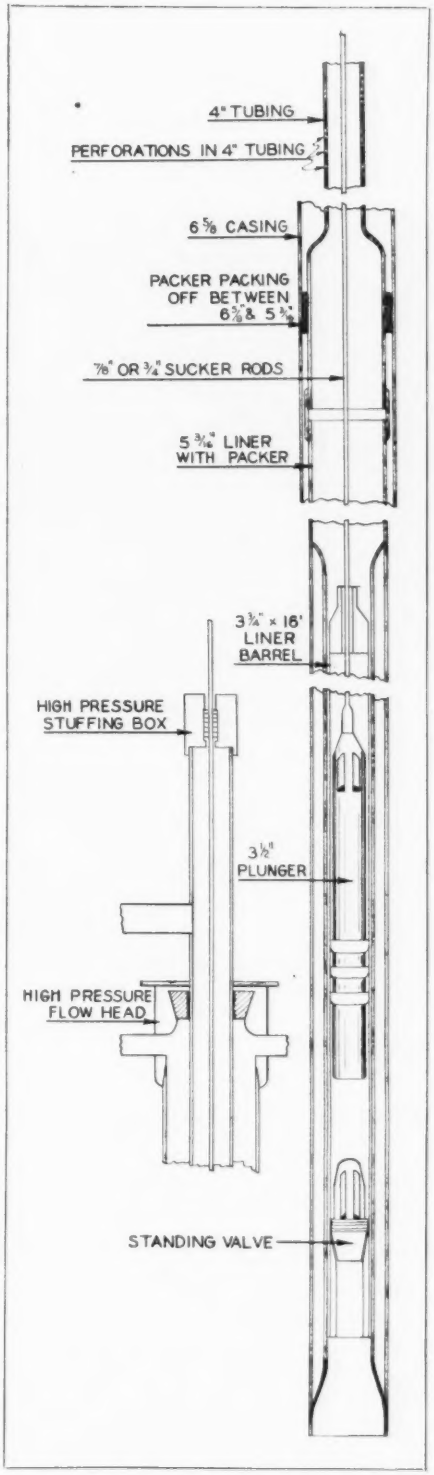
Arthur Johnson, secretary of the Mountain & Gulf Oil Co., succeeds Mr. Ball in the presidency of Argo, retaining the other position as well. The Argo was formed several years ago by merger of a group of companies, including the Western States Oil & Land Co., Marine Oil, Glenrock Oil and Royalty & Producers Corp. It is primarily a Salt Creek field company, with lesser interests elsewhere. At one time this summer it appeared that the Argo would acquire the Homaokla Oil Co., operating in Oklahoma. The company recently was acquired by Pettigrew & Meyer, a New York investment house.

Mr. Ball has been identified with the oil industry for quite a while. He began with the U. S. Geological Survey, later setting up in practice in Denver and for a while he was head of the Shell's Rocky Mountain subsidiary. He organized the Western Pipe Line Co., which laid a line from Salt Creek to Casper. He had been a leader in technical associations pertaining to the oil industry, at one time being president of the American Association of Petroleum Geologists.

* * *

Just as the petroleum exposition closed, the first real cold snap of the year hit Oklahoma. Duck hunters were glad to see it. Your correspondent plans to shoulder a gun and set out for the nice little lake owned by Black, Sivalls & Bryson, the tank people, in a few days. Quail season is still a month away. There are lots of birds this year, if you know where to get them.

Combination Pump and Flowing Device Used in Seminole



Combining air lift and pumping equipment has proven a good method of producing deep wells which have declined in oil production to a point where a great deal of water is coming with but a little oil. Oil is pumped part way up the tubing, where it is flowed the rest of the way by compressed gas, supplied by equipment which might otherwise be idle. All pressure is thus kept off the fact of the sand. Flowing the production through the tubing saves lubricating rods, which would be necessary if the oil passed out of the perforations and up the annular space between the tubing and casing

EARLSBORO, Nov. 2

A METHOD of employing idle compressor equipment to solve rod troubles in deep pumping wells has been worked out by Charles Jacobson and L. A. Summers, both of the Barnsdall Oil Co. Three wells in the Earlsboro field at Seminole are being produced by this method, and in no case during 110 days of operation has a rod parted or unscrewed. This is just about a record for wells of this depth—4300 feet—but what is more important, down time has been greatly reduced and production increased. Another feature is that pressure is kept entirely off the face of the sand, an important point when wells have reached the pumping stage in this field.

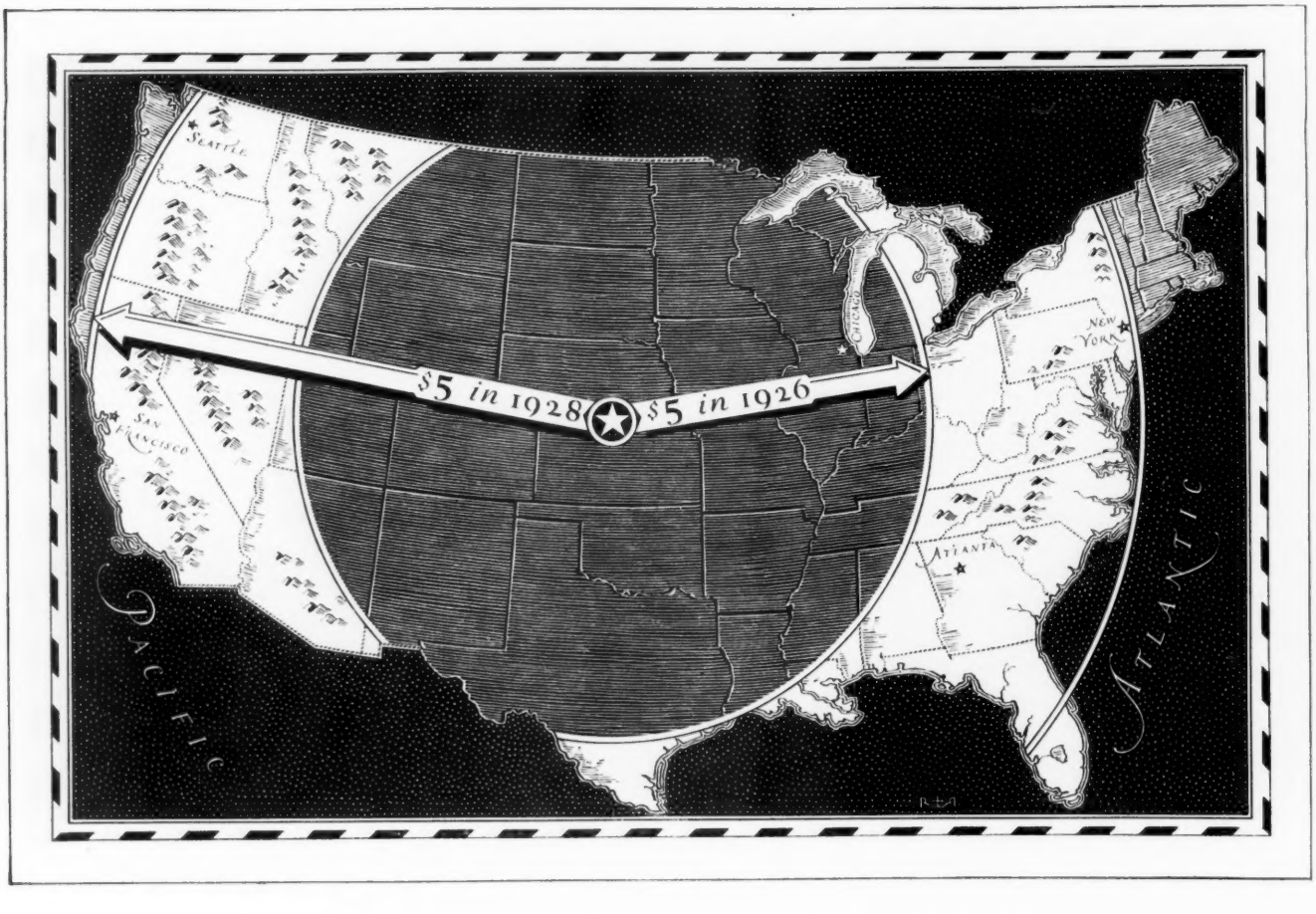
In the wells to which the device has so far been applied, the 6⅝-inch casing has been the last string run. A 5 3/16-inch liner is set in the bottom of the pipe, with the packer above the fluid level. Four-inch tubing was in the well, and it was made up into the liner through a swedge nipple, thus holding the liner rigid. A 3¼-inch by 16-foot liner-barrel is set in the bottom of the casing liner, and the oil pumped in the usual manner.

But it is pumped only a comparatively short distance, about 1,000 feet or so. At this distance from the bottom the tubing is perforated. Compressed gas is put down the annular space between the casing and the tubing, enters the tubing through the perforations, and picks up the oil, flowing it the rest of the way. Before starting the compressors, enough oil is pumped out through the perforations to fill the annular space between the tubing and casing from the packer to the perforations, thus giving an additional fluid seal, insuring that no pressure will be put on the face of the sand.

Of course, it would not be economic to install compressor equipment especially for this purpose, but in deep fields, where the wells have declined, and the water increased to a point where the air/gas lift has served its purpose as the best method of producing, it puts equipment that would otherwise be idle to a very good use indeed.

The three wells of the Barnsdall Oil Co. which have been produced in this fashion are the Gibson No. 6, in 9-9-5; the Mandy Davis No. 3, in 11-9-5; and the Mary Carter No. 8, in 24-9-6. The first of these wells was pumping from 10 to 12 barrels of oil daily, and making about 250 barrels of water with the oil. By the combination method the amount of fluid handled has nearly trebled.

Now only $5 to telephone half way Across the Continent



An Advertisement for Bell Long Distance Telephone Service

NEXT to how much may be accomplished by long distance telephone calls, and the speed with which they are now being put through, the most surprising thing about them is: How little the calls cost.

Picture a man in Smith Center, Kansas, geographical center of the United States. Under the new station to station day rates he can now "travel" to the Atlantic or the Pacific coasts and return for $5. From Chicago one can go to New York and back for $3.25. To Los Angeles and return for $6.25. To Dallas and return for $3.25. All the way to London and back for $48.

Every long distance call is a round-trip journey. In a long distance call a man not only speaks what is in his mind but gets the answer. From his office in any city, a man whose time is valuable can speed from one concern and market to another, regardless of distance, in a few minutes and at small expense.

A Nashville lumber company relies on long distance calls for collecting slow accounts.

A Portland, Oregon, fruit company figures its sales overhead, where the telephone is used, at 2%. Where personal solicitation only is used, 7%.

A Chicago miller, by a telephone call to Philadelphia, costing $3.10, sold 60 carloads of flour for more than $100,000.

Why not let Long Distance help your business? What distant places could you profitably reach by telephone, now? . . . *Number, please?*

AMERICAN TELEPHONE & TELEGRAPH CO. AND ASSOCIATED COMPANIES — BELL SYSTEM

Misener Sand "Play" Given Impetus By Amerada Well in 8-8-5

By John Power
N. P. N. STAFF WRITER

TULSA, Nov. 3

FOR the first time since the opening to full production of the Little River pool, the combined production of the five pools known as Greater Seminole, in Oklahoma, has fallen below the 300,000-barrel mark.

The cold snap which reached the state during the week may have had something to do with the decline; but it is interesting to recall that production from the area has never fully recovered from the effects of previous cold weather which occurred during a gradual production decline.

Total production of the five pools Nov. 2 was 296,769 barrels. While the output for the 24 hours ending 7 a.m. Nov. 3, showed a gain of a couple of thousand barrels, the likelihood is that it will take new blood in the shape of new edge wells to swell the figure again appreciably above 300,000 barrels.

That there is such a possibility is indicated by reports from the Mid-Continent Petroleum Corp., No. 1 Rogers, SE SW of 5-9N-5E, which has 3000 feet of oil in the hole from the Wilcox sand at 4589 to 4594 feet. Should this make a well it will extend the Earlsboro production a few locations to the west on the northwest edge of the field. A mile and a half southwest of the Mid-Continent well the Independent Oil & Gas Co. has a test on the Viola lime, which was encountered at 4264 feet. The rig is being standardized with the hole at a total depth of 4284 feet.

Along with the decline in Oklahoma's production and the promise of continued decline there has been a splendid maintenance of market for crude oil. Preliminary estimates, which may vary from the final figures, indicate that, during October, from 6000 to 10,000 barrels per day went into storage.

Further evidence of the good month that was enjoyed by purchasing companies is shown in the statement of the Prairie Pipe Line Co. whose October shipments totaled 6,254,380 barrels, or a daily average of 201,754 barrels. This is the highest month's deliveries in history by this company, August previously having been the record. Of this total, less than 10 per cent is oil tendered by companies other than the Prairie Oil & Gas Co.

The proven fields having died down sufficiently, more attention is being paid to the areas in the general direction of Seminole, which may call for considerable development in the near future. Of these, the Misener sand production in the western part of Twp. 8N-5E is as interesting as any. The Pure Oil Co. No. 1 Lindley, in the SE SW SE of 18-8-5, the discovery well in the field, has indicated that it is good for at least 2500 barrels from the Misener sand.

The Gypsy Oil Co. No. 1 Bourassa, in the SE NE of 7-8-5, has a combined production of about 1750 barrels from the Misener and Hunton formations, 1000 barrels of which is from the Hunton. And now the Amerada Petroleum Corp. with its No. 1 Gosland, in the NE SW of 8-8-5 has enough of a well to indicate that both these formations may combine to cover enough area to constitute a respectable oil field.

The Amerada well is said to be producing mainly from the Hunton formation. The Misener sand is noted for its inconsistencies, but the levels at which it was encountered in these three wells may indicate that production from this formation may be fairly continuous in the area. The Amerada well, which had the Misener at 4046 and the Hunton at 4051 feet, cable measurement, is flowing by heads at the rate of about 50 barrels per hour.

Company	Lease
Barnsdall	Stahl
Gypsy-Sinclair	Stahl
Phillips	Stahl
Sinclair	Nadash
Magnolia	Hembree
Magnolia	C. A. Youts
Magnolia	H. E. Youts
Magnolia	Tull Fyke "A"
Magnolia	Tull Fyke "B"
T. B. Slick	Hembree
T. B. Slick	Youts
Mid-Continent	Guinn
Independent	Youts
Prairie	Wolfe

The most important well drilling in the St. Louis pool at the present time is said to be the Furhman Petroleum Corp., The Texas Co. No. 1 C. Cherry, in the SW NW NW of 25-7N-4E. This well has drilled three feet of the Wilcox sand, from 4243 to 4246 feet, without any result whatsoever, getting neither oil nor salt water.

It is this absence of water which interests, as most of the Wilcox failures in the pool have announced themselves as such almost as soon as the sand was penetrated.

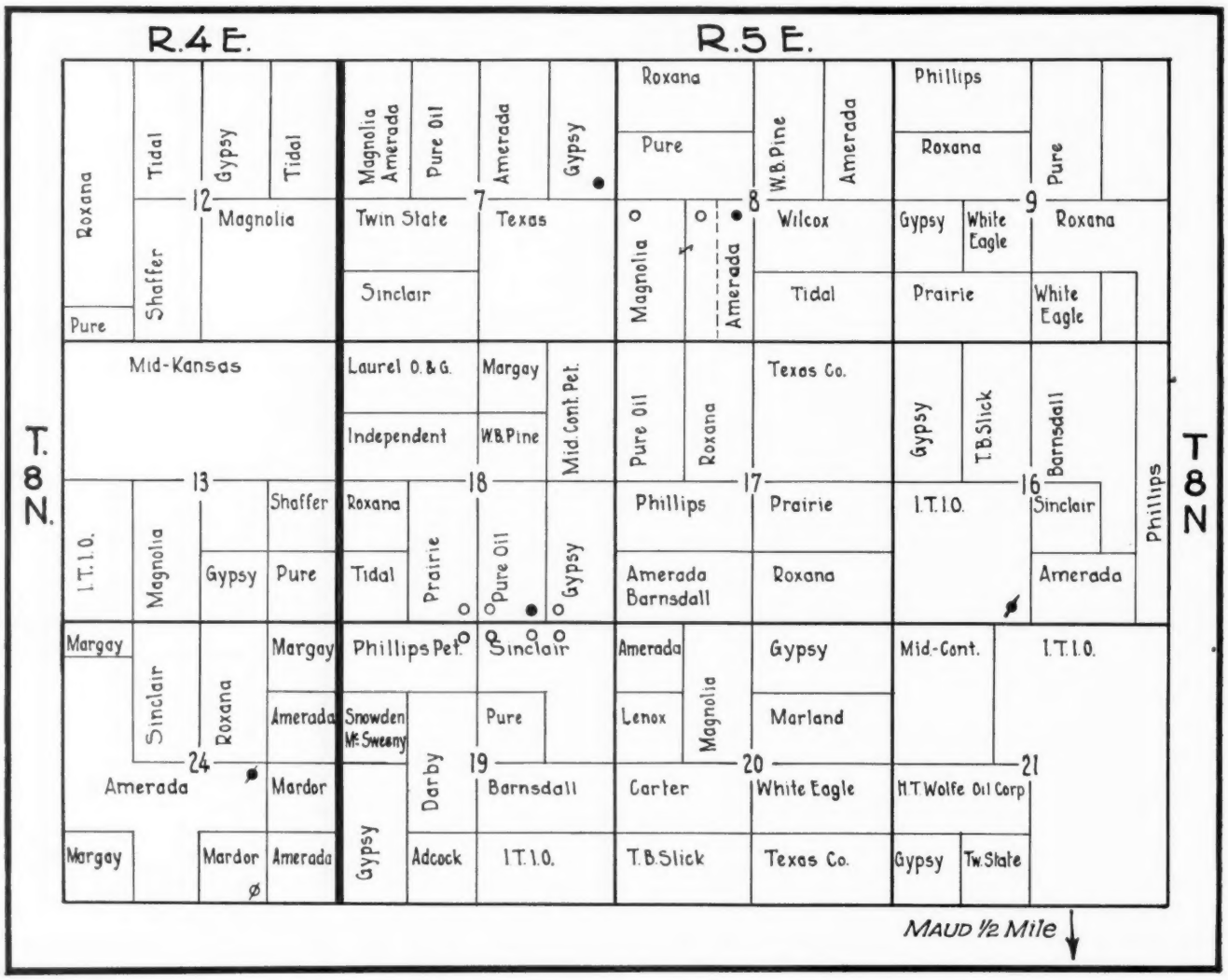
If this test should make a well of any imposing proportions, it would probably be taken to indicate another Wilcox producing area, as there has been a Wilcox failure or two drilled between this location and the Wilcox production of the field.

Although the true Wilcox sand pools, of which St. Louis is an example, do not cover much ground, the good spots in them are good sure enough. The 40-acre lease on which T. B. Slick drilled the first big Wilcox well in the field has produced nearly 2,750,000 barrels from all four wells. Of this amount the No. 1 well has 1,528,104 barrels to its credit up to Oct. 26. Production from the field is declining however, and such new wells as are brought in are disappointingly light. A comparative table of production by leases as of Nov. 2 and Oct. 26 follows:

No. of wells		Prod. Nov. 2	Prod. Oct. 26
1		1,135	1,170
4		13,112	11,200
2		4,432	5,865
1		870	1,060
4	(air trouble)	7,788	9,384
1		308	280
5	(air trouble)	3,204	12,159
1		120	350
1		1,123	1,080
4		16,712	16,695
4		4,255	3,897
1		1,865	2,235
8		22,930	21,963
3		3,360	2,045
40		82,034	89,383

Besides the Mission area which is marking time until Nov. 15, when some 70 drilling wells will get under way, the only other known Wilcox area in the Seminole district which is active is the area around the Mid-Continent Petroleum Corp. No. 1 Smith, in the NW NE of 5-7-7. There are several wells drilling in this region, which has indicated that production will be spotted and irregular. The Mid-Continent well was deepened six inches during the week from 4227 feet, responding with a steady flow of between 100 and 110 barrels per hour. It made 130 barrels the first hour after deepening, with a total production for the 24 hours ending 7 a.m. Nov. 2 of 2175 barrels. This is nearly twice what the well had been making before deepening.

To counteract this favorable indication of the possibilities of the pool, the Tidal Oil Co. completed its No.



Although the Amerada Petroleum Corp. No. 1 Gosland is actually producing from the Hunton lime, it has stirred up interest in the Misener sand play going on in the western part of Twp. 8N-5E. Located in the NE SW of 8-8-5, the Amerada producer is a mile and a half northwest of the Pure Oil Co. discovery well, in sec. 18. Although the Misener sand is nearly pinched out in both the Gypsy well in sec. 7, and in the Amerada well, it was encountered about 20 feet higher structurally than in the Pure Oil Co. well. The latter is estimated as good for at least 2500 barrels daily from the Misener formation

1 Harrison as a dry hole. Six hundred feet of water came from the Wilcox after this formation was drilled from 4488 to 4490 feet. Located in the NW of 10-7-7, the failure is a mile and a half southeast of the Mid-Continent producer.

The Mission pool had a completion during the week which was not so good. The Mid-Kansas Oil & Gas Co. No. 1 Moore, in the NW SW SE of 7-8N-6E, topped the Wilcox at 4545 and drilled to 4547. This resulted in some oil and more water, so the well was plugged back a foot to 4546, from which depth it is producing 35 barrels of oil and 125 barrels of water on the pump.

Possibilities of important Cromwell sand production south of the Little River pool appear to have faded with the decline in pipe line oil production from the T. B. Slick No. 1 Wood, in the SE SW of 26-7-6. This was a dry hole in the Wilcox which was plugged back to the Cromwell. The casing was ripped and the pay drilled into through the side of the pipe. Production at first amounted to about 75 barrels an hour, but this has declined somewhat, and the intrusion of water has increased the amount of emulsion until 50 per cent of the 1500 barrels of oil daily is not of pipe line grade.

Okmulgee county has a new Wilcox sand showing in the Beggs pool, near Preston. L. H. Wentz and Campbell Cochran have 200 feet of Wilcox oil in the hole in their well in the SW NE NE of 35-15-12, from the sand topped at 2753 feet. The first show of oil was at 2758 feet, and the total depth 2760 feet.

A small showing of oil and gas is reported at 7001 feet in the Oklahoma City test of the Cromwell Oil & Gas Co. and others, in the SW NE NW of 15-12N-3W, two miles north of the state capitol. This is Oklahoma's record test for depth. The operators will set 3½-inch casing at this depth. In the same county, the Indian Territory Illuminating Oil Co. is drilling at 6120 feet in its test in the center SE SE of 24-11N-3W, south of Oklahoma City. This test had big flows of gas at two horizons between 4000 and 5000 feet. The same company is starting another test in the center NE SW of 13-11N-3W, for gas. About four miles southeast of these operations, T. B. Slick, Inc., will start a test in the center of the NE NE of 8-10N-2W, on a block of about 4000 acres under lease to the Phillips Petroleum Co.

Another deep test which was reported as having a show of oil is that being drilled by Tibbets and Bond, et al., in the SW NW SE of 21-18N-2W, in Logan county. The show, which was small, was from a sand from 5395 to 5408 feet. Last reports from the field said that the well drilling ahead in sandy lime at 5480 feet, and that there was no free oil in the hole.

In Sedgwick county, Kans., several wells near the Wright discovery of the Marland Production Co.-Gypsy Oil Co.-Bu-Vi-Bar Petroleum Co. are nearing important depths. The discovery, SE corner, north 60 acres, SE¼ of 12-26-1W, has made since early August upward of 140,000 barrels and still flows better than 1500 barrels daily.

Maximum Gas-Oil Ratio of 5000 Feet Advised for Misener Sand Pool

By John Power
N. P. N. STAFF WRITER

TULSA, Nov. 3

URGING that the gas and gas pressure be preserved in the new Misener sand pool, in the northwest part of Twp. 8N-5E, Pottawatomie county, engineers representing operating companies there met recently to discuss methods of production to bring this about.

The Misener sand, a producing horizon on top of the Hunton lime, was found to be productive in this locality by the Pure Oil Co., whose No. 1 Lindley, in the SE SW SE of 18-8-5, came in good for about 2500 barrels daily early in September.

Because of arrangements made with owners of offsetting leases, who agreed to contribute dry hole money, the well has been shut since its completion. It will remain shut in until an offset well is completed, some time in the next three or four weeks.

Acting on the theory that a reduction in the gas/oil ratio will increase the ultimate recovery of both oil and gas, the engineers agreed upon a platform of operation which is to be presented to the executive departments of their respective companies. A meeting of the executives to discuss these suggestions is expected to take place in a few days.

The proposal of the engineers is that no well in the field shall be produced at a greater gas/oil ratio than 5000 feet per barrel of oil. That is, that not more than 5000 cubic feet of gas shall be produced with each barrel of oil.

To preserve this ratio the engineer of each company is to adopt any method he sees fit to get the best, i.e. the lowest, gas/oil ratio.

Each operator will be asked to maintain that back pressure which gives the lowest possible gas/oil ratio without reducing production more than 20 per cent. If, however, it is necessary to reduce production more than 20 per cent to stay within the 5000/1 ratio agreed upon, this shall be done.

Meters are to be placed on each well, and a man working out of the office of Ray M. Collins, field umpire during all of the restriction programs during Seminole's development, is to check the readings and assist the operator to get a better gas/oil ratio.

A committee of engineers is to be appointed as advisory to Mr. Collins and the operators' committee. This engineers' committee is to suggest back pressures and rates of production which will most effectively conserve the gas.

Since the discovery well was completed, the Gypsy Oil Co. has completed another producer one mile north and two locations east of the Pure Oil Co.'s well. The Gypsy producer, in the SE NE of 7-8-5, had the Misener sand at 4087 feet, which, with an elevation of 989 feet, puts this formation at a sub-sea elevation of minus 3098 feet.

The Pure well, with the sand encountered at 4098 and an elevation of 979 feet, had the pay at a minus 4119, or 21 feet lower than the Gypsy well. Although both wells had considerable gas, the Gypsy well had by far the more of the two.

The Pure Oil Co. well is, however, apparently a better oil well. The former had about 750 barrels per day from the 17 feet of Misener sand which was encountered, and another 1000 barrels of production from the Hunton lime, of which 21 feet was drilled. The Pure well stopped drilling at 4117 feet, still in the Misener. Production of at least 2500 barrels was indicated by the 18-hour test given the well the third day after it was drilled in.

Unlike the Wilcox sand which produced in the Seminole fields, the Misener carries a good deal of gas with the oil. The most important function of the gas in the well is to move the oil from pores of the sand into the hole and within reach of the operator. At all times during the life of a well there is an effective back pressure against which the well may produce with the lowest possible gas/oil ratio. And the most important factor in controlling gas/oil ratios is regulation of back pressure on the face of the producing sand.

In the development of this as yet unnamed pool it is probable that all three of the common methods of maintaining a back pressure will be used. These three are the use of top or bottom hole beans, or orifices; a constriction of the flow line, or a bottom hole regulation of the pressure in some way.

The ideal conditions for operating with a view to the greatest possible conservation of the gas would be a field owned and operated by one company. Such a situation would permit the complete shutting in of wells which had an inefficient gas/oil ratio, and a withdrawal of the oil from those wells in which the pressure was not so great.

But with competitive interests owning adjoining wells such a process is generally deemed impossible. To be equitable the same relative condition must be maintained on all wells. And the yard stick of operation must be the gas/oil ratio, as the same back pressure applied to a well with a comparatively lower rock pressure would restrict production in a greater proportion than would the same back pressure applied to a well with a greater rock pressure.

Engineers at the meeting were of the opinion that, with a proper control of the gas/oil ratio in the new field, enough gas could be saved to provide fuel for the development of the field, and that the more efficient use of the gas when kept in the sand would result in a greater ultimate yield of oil.

Exports from Tampico District

Company	August	September
Transcontinental Petroleum Co. (Standard of New Jersey)	484,221	466,320
Pan American Eastern Oil Co.	638,037	768,861
Mexican Eagle Oil Co. (El Aguila)	608,238	491,415
Cia. Mexicana Holandesa "La Corona"	49,004	229,885
The Texas Co. of Mexico, S. A.	.....	54,505
Sinclair Mexican Companies	113,758	61,659
East Coast Oil Co. of Mexico, S. A. (Southern Pacific)	.....	.....
Pierce Oil Corporation	5,111	52,295
Mexican Atlas Oil Co.	46,118	51,341
La Espuela Oil Co.	.....	.....
Mexican Oil Products Co.	4,745	.....
Panuco Boston Oil Co.	71,028	.....
Empire Gas & Fuel Co.	68,446	84,026
Penn Mex. Fuel Co.	58,800	.....
Mexican Gulf Oil Co.	183,759	65,751
New England Fuel Oil Co.	.....	64,773
The Rayon Company (Transcontinental Subsidiary)	149,533	.....
Totals	2,480,798	2,390,831

Uniform Back Pressuring is Advised For Santa Fe Springs

By W. E. Green
N. P. N. STAFF WRITER

LOS ANGELES, Nov. 3 OPERATORS at Santa Fe Springs, where a deeper oil producing zone is being developed, will be asked within the next few days to agree 100 per cent to a plan of curtailment to hold down the loss of gas to a minimum.

Control of operations under this plan would be placed in a control committee, to be composed of three men named by the Santa Fe Springs operators.

This plan was outlined in a resolution adopted Nov. 2 by a committee of 15, named to make a study of the situation.

It is understood that 90 per cent of the operators at Santa Fe Springs have already approved unofficially the plan. Official action probably will be taken Nov. 9. The curtailment plan calls for the use of tubing in all wells on production, the use of back pressure and that every well be equipped with high pressure fittings capable of withstanding pressures up to 2000 pounds. The plan further provides that new wells be allowed to produce 15 days and at the end of that period, production be pinched back, using average production of last 5 days as basis for pinching back.

It was reported to the committee that the plan for repressuring upper zones with surplus gas from the deeper zone would be completed in detail within another week and it is expected that the plan will be submitted at the Nov. 9 meeting.

The resolution setting forth the proposed plan for curtailment at Santa Fe Springs as approved by the special committee follows in full:

"Whereas, the governor of the state of California, through the Governor's Gas Conservation Committee, has called upon the operators in the Santa Fe Springs field to prevent as far as possible creating and maintaining a surplus of natural gas in excess of that which can be put to beneficial use after being separated from the oil which has been produced by said gas, and

"Whereas, experience in the production of oil has demonstrated that a larger ultimate production of oil can be secured, and a greater conservation of gas effected, by flowing wells against a back pressure controlled by flow plugs or beans and

"Whereas, it has been demonstrated that natural gas performs a two-fold function in producing oil,

"1. By decreasing the viscosity of the oil occurring in the sands, and

"2. By furnishing the energy necessary to bring the oil to the well and flow said well.

"Therefore, the Committee on Curtailment of Santa Fe Springs Gas Production recommends that a uniform practice of back pressuring in all wells in the Santa Fe Springs Field be adopted for the purpose of conserving gas and materially reducing the amount of gas currently produced, so as to meet the demands of the Governor's Gas Conservation Committee and to increase the ultimate recovery of oil.

"In order to accomplish this in a manner fair and equitable to all operators and others owning wells or having an interest in the production of oil and gas therefrom, it is necessary that the procedure for gas conservation shall be uniformly accepted and followed by all operators.

"For this purpose the Committee on Curtailment of Santa Fe Springs Gas Production recommends to the operators of the Santa Fe Springs District the following plan of action:

"1. That all new wells completed at Santa Fe Springs be produced through tubing.

"2. That all wells be equipped with high pressure casing heads and fittings capable of withstanding 2,000 pounds test pressure, or better.

"3. That whenever the gas production at Santa Fe Springs exceeds the usages in the field and the demands of the gas companies and the demands of repressuring and storage projects so that an actual surplus exists, each flowing well producing from zones lower than the Meyer zone shall be pinched back by a percentage of its net oil production to be set by a Control Committee, to be appointed by the Santa Fe Springs operators; the percentage cut to be uniform and applicable alike to all such wells; that each new flowing well brought in from zones below the Meyer zone be allowed to produce normally for 15 days, and that thereafter each such well shall be pinched in at the end of 15 days the total percentage cut then in effect; that said percentage cut shall be applied on the average production of the well during the last five days of said 15-day period; that if any well subject to cut shall develop pressures or mechanical conditions which prohibit the entire percentage cut then due, the company possessing such well shall make additional cuts on other wells to obtain the equivalent barrelage cut due on the well in question.

"4. That the Control Committee may change the percentage of cut at its discretion whenever the conditions warrant, by adding additional cuts or by reducing cuts already in effect, the same to be applicable alike to all wells.

"5. That the foregoing program shall be accepted in writing by all operators owning or operating wells in the Santa Fe Springs Field.

"6. That upon the acceptance of the foregoing plan, the Control Committee shall issue the necessary instructions to carry this program into effect at the proper time; that the operators of the field will furnish this Committee with the necessary information as to their daily production and other pertinent data asked for by said Committee and that this Committee is authorized to call upon and be furnished by all marketing companies, pipe line companies and others running or removing oil from the Santa Fe Springs Field, oil runs to determine the deliveries of all operators in the field, for the purpose of establishing complete compliance with this program.

"7. That this program shall continue in effect for six months from the date set by the Control Committee for the beginning of the curtailment. If one month prior to the end of the six months period it appears to the Control Committee that the emergency will still exist at the end of the period, the Control Committee shall so notify the Santa Fe Springs operators in order that measures may be taken to extend the period."

Three New Wells Jump Muskegon Output

MUSKEGON, Mich., Nov. 3.—Completions in the Muskegon field, in southwest Michigan, within the last month have raised the field's daily output from about 500 to nearly 6000 barrels a day.

The last well came in Nov. 1, and

One of the Veedol Tank Trucks equipped with Wheaton Type A Faucets, like the one shown immediately over the truck.

Every Tide Water Tank Truck
is equipped with WHEATON FAUCETS

SINCE the first Tide Water tank truck went out on its maiden trip practically every gallon of Tydol and Veedol have been delivered through Wheaton Faucets. And, just as Tide Water tank trucks are equipped with Wheaton Faucets, so are this company's bulk storage plants equipped with Wheaton Swing Joints, Loading Valves and Anti-Freeze Valves.

Yes, the Tide Water Oil Company has long standardized on Wheaton Products — a high recommendation certainly!

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flowed more than 200 barrels the first hour, it was said, after which the flow was choked because of the absence of adequate storage.

The well is the property of the Muskegon Oil Corp., which drilled the discovery well in the field (about a half mile south of the new well's location) less than a year ago. It is situated in the southwest quarter of Sec. 4, Muskegon township, is 2064 feet deep and producing from the Dundee formation. Conservative estimates are that the well is good for 2500 barrels a day.

The completion of this well, in conjunction with two other 1000-barrel wells brought in during the week, has changed the outlook of a great many oil men with regard to the Muskegon field. Storage facilities and transportation facilities have been taxed beyond their capacity, causing considerable excitement among local residents and speculators.

New Deep, Light Oil District In California

LOS ANGELES, Nov. 3

MILHAM EXPLORATION CO.'S Elliott 1, in Kettleman Hills, Kings County, Cal., which had been blowing wild for three weeks, was brought under control Oct. 25.

On Nov. 1, during a 14-hour flow, it made 760 barrels of 43 gravity oil, in addition to an estimated 40,000,000 cubic feet of gas.

The well had been drilled to 7236 feet when it broke control, and for two weeks it made only gas, with a slight spray of oil.

The action of this well in wildcat territory probably means more to the future of the California oil industry than the expected big production at Santa Fe Springs or the possibility of opening up new deep zones in other old fields.

The oil from the Elliott well, on analysis, was found to contain 63 per cent gasoline, 26 per cent kerosene and 11 per cent light crude. It has a mixed base, about equally divided between asphalt and paraffin.

Most of the major companies in the state hold acreage in the general vicinity of the new well and it was reported this week that several locations would be made within the next month. Due to the deep drilling necessary, it is not expected that Kettleman Hills production can have much if any effect on the state's production during 1929.

Gas from the Milham well has a natural gasoline content of 2.5 gallons to the 1000 cubic feet. Based on these figures, the well would be good for 100,000 gallons of natural gasoline daily.

Recent reports from the Getty burning well at Santa Fe Springs were that it was still burning, although the daily average production of saved oil is 3350 barrels, in addition to 7,250,000 cubic feet of gas. The string of 9-inch casing has been penetrated six times in the tunnel, and lines connected so compressors could be used to divert the flow of gas through the tunnel instead of out of the mouth of the hole.

It is estimated that fully 75 per cent of the gas and oil production from the well is coming through the tunnel and the pressure at the top has been greatly reduced, thus greatly reducing the flames. It is likely that the opening at the top of the well will soon be closed.

An oil sand has been cored by two other wells just above the deeper Buckbee zone as a point approximately equal to bottom of the Getty well—5410 feet. This new zone probably will be produced by several of the present drilling wells, so drilling their holes so they can be drilled into the Buckbee sand later.

The Texas Co's. Mattern 2-7 was completed with bottom at 5810 feet, 148 feet into the Buckbee sand for 4450 barrels of 34 gravity oil in addition to 2,500,000 cubic feet of gas. This well has a tubing pressure of 500 pounds and a casing pressure of 1300 pounds.

Shell Co.'s Slusher 12, which had been producing more than two weeks from only 3½ feet of Buckbee sand, has been killed and will be drilled deeper. Its production had declined to 700 barrels. McKeon Drilling Co.'s Y & L No. 1, Union Oil Co's Bell 30 and Associated Oil Co.'s Jordan No. 2 have cemented casing just above the Buckbee and will make production tests early in the week.

Early this week, at Santa Fe Springs there were 240 operations, from locations to drilling wells.

At Long Beach, producing wells at the end of the week totaled 775, with five new wells being placed on production for 6500 barrels of flush production. This field shows little production change week to week.

On Oct. 20, several operators, forced by the demands of land owners, opened up close to 16,000 barrels of shut in production in Kern County. A number of the wells were again closed in after the Standard of California announced a reduction of 25 cents in the posted price of oil in that field. A check this week indicated that the shut-in production at Kern River, mostly in Kern Front, totaled 11,680 barrels, against 22,930 barrels formerly.

At Seal Beach, Marland Oil Co. has recently placed on production three wells with a total flush output of 6100 barrels. One is flowing from the deeper McGrath sand while the other two are producing from the Hellman zone, the sand just below the Selover, which has produced most of the oil of this field.

Seminole District Production by Companies and Leases, October 31 and October 24, 1928

LITTLE RIVER

Company	Farm	S.T.R.	Oct. 31 Wells	Oct. 31 Prod.	Oct. 24 Wells	Oct. 24 Prod.
Amerada	Nitey	2- 7-6	3	1,005	3	1,030
Amer-Wilcox	Fore	35- 8-6	2	310	2	330
Total Amerada			5	1,315	5	1,360
Barnsdall	Cotcha	23- 7-6	2	1,310	2	1,730
Barnsdall	Hotulka	22- 7-6	2	476	2	586
Barnsdall	Walker	4- 7-6	1	545	1	500
Total Barnsdall			5	2,331	5	2,816
Blackwell	Baker	11- 7-6	4	1,860	4	2,185
Blackwell	Nitey	35- 8-6	6	1,431	6	1,455
Blackwell	Talley	14- 7-6	3	790	3	930
Total Blackwell			13	4,081	13	4,570
Bryan-Emery	Walker	4- 7-6	1	13	1	13
Carter	Cotcha-M	23- 7-6	3	340	3	390
Carter	Cudjo	23- 7-6	1	25	1	0
Carter	Fish	36- 8-6	4	560	4	480
Carter	Harjo-C	11- 7-6	2	6,654	2	7,261
Carter	Harjo-M	13- 7-6	2	1,015	2	1,120
Carter	Jackson	11- 7-6	4	1,755	3	1,535
Carter	Larney	24- 7-6	2	1,275	2	1,368
Carter	Lena	10- 7-6	1	1,040	1	1,150
Carter	Moore	11- 7-6	2	965	2	895
Carter	Tewee	14- 7-6	5	4,054	5	4,555
Carter	Thomas	11- 7-6	1	425	2	475
Carter	Wilson	12- 7-6	2	675	2	753
Total Carter			27	18,783	27	19,982
Champlin	Tewee	14- 7-6	2	2,361	2	2,315
Continental	Cosar L	36- 8-6	7	2,030	7	2,070
Continental	Cosar M	25- 8-6	1	410	1	470
Cont. et al.	Milsey	11- 7-6	2	2,705	1	1,940
Total Continental			10	5,145	9	4,480
Empire	Charty	24- 7	1	748	1	480
Empire	Coker	13- 7-6	1	0	1	230
Empire	Sandlin	3- 7-6	1	11	1	11
Total Empire			3	759	3	721
Gypsy	Brown-C	33- 8-6	2	847	2	837
Gypsy	Brown-M	33- 8-6	1	1,202	1	1,140
Gypsy	Campbell	33- 7-6	2	22	2	42
Gypsy	Conard	22- 7-6	2	882	2	1,117
Gypsy	Cosar-M	25- 8-6	1	0	1	0
Gypsy	Cosar W	35- 8-6	2	155	2	170
Gypsy	Cotcha	23- 7-6	4	1,642	4	2,150
Gypsy	Denmark	11- 7-6	4	3,222	4	3,302
Gypsy	Hulhoke	14- 7-6	10	5,620	10	5,955
Gypsy	Nungee	1- 7-6	1	17	1	15
Gypsy	Pottie	35- 8-6	4	890	4	995
Gypsy	Renton	11- 7-6	3	920	3	865
Total Gypsy			36	15,419	36	16,598
Independent	Davis R	13- 7-6	3	1,703	3	1,715
Indep.	Tewee	14- 7-6	6	3,470	6	3,390
Indep. et al.	Harris	23- 7-6	8	3,203	8	3,145

(Continued on Page 45)

Seminole District Production by Companies and Leases, October 31 and October 24, 1928

(*Continued from Page 44*)

Company	Farm	S.T.R.	Oct. 31 Wells	Oct. 31 Prod.	Oct. 24 Wells	Oct. 24 Prod.
Indep.-W. Eagle	Davis	3- 7-6	4	975	4	1,235
Ind.	Williams	15- 7-6	1	915	1	1,085
Total Independent			22	10,266	22	10,570
I. T. I. O.	Campbell	1- 7-6	1	174	1	185
I. T. I. O.	Dungan	35- 8-6	3	1,168	3	1,200
I. T. I. O.	House MA	1- 7-6	1	21	1	21
I. T. I. O.	House WE	1- 7-6	1	54	1	32
I. T. I. O.	House B	2- 7-6	4	780	4	871
I. T. I. O.	Hull	26- 8-6	3	624	3	711
I. T. I. O.	Jackson	1- 7-6	3	882	3	851
I. T. I. O.	McCulla	1- 7-6	3	566	3	560
I. T. I. O.	Nitey	1- 7-6	6	237	6	135
I. T. I. O.	Phoebe-A	36- 8-6	3	216	3	245
I. T. I. O.	Phoebe-B	36- 8-6	4	178	4	185
I. T. I. O.	Reed	1- 7-6	1	0	1	0
I. T. I. O.	Soketheche	1- 7-6	3	543	3	603
Total I. T. I. O.			36	5,443	36	5,599
Magnolia	Cruse	2- 7-6	4	633	4	416
Magnolia	Denby	11- 7-6	3	1,608	3	1,408
Magnolia	Dixon	31- 8-7	1	0	1	6
Magnolia	Harjo-A	14- 7-6	2	315	2	400
Magnolia	Harjo-B	14- 7-6	2	1,224	2	1,320
Magnolia	Pottie	35- 8-6	4	633	4	600
Magnolia	Reed E	31- 8-7	1	28	1	21
Magnolia	Reed I	22- 7-6	3	1,160	3	1,208
Total Magnolia			20	5,601	20	5,379
McCulloch-Sands	Harrison	4- 7-6	1	56	1	70
Mid-Cont.	Bruner	11- 7-6	4	2,280	4	2,185
Mid-Cont.	Eleck	23- 7-6	1	420	1	440
Mid-Cont.	Smith	5- 7-6	1	1,525	1	1,545
Mid-Cont.	Wadsworth	36- 8-6	7	325	7	435
Total Mid-Continent			13	4,550	13	4,605
W. B. Pine	Hoyecha	26- 8-6	6	2,907	6	2,968
Pine-Phillips	Pottie	35- 8-6	2	400	2	360
Total Pine			8	3,307	8	3,328
Prairie	Chilcoat	25- 8-6	3	920	3	875
Prairie	Dungan	36- 8-6	1	40	1	40
Prairie	Gibson	14- 7-5	6	2,775	6	3,070
Prairie	Harris	14- 8-6	3	1,635	3	1,555
Prairie	House	2- 7-6	4	385	4	340
Prairie	Moppin	24- 7-6	1	405	1	425
Prairie	Talley	14- 7-6	4	2,215	4	2,390
Prairie-Amer.	Sunny	14- 7-6	8	6,310	8	7,350
Total Prairie			30	14,685	30	16,045
Pure	Cotcha	14- 7-6	9	4,557	9	5,166
Pure	Harjo	11- 7-6	4	1,269	4	1,374
Total Pure			13	5,926	13	6,540
Reiter-Foster	Bunyard	14- 7-6	4	3,405	4	4,105
Roxana	Caesar	11- 7-6	1	41	1	36
Roxana	Hotulke	23- 7-6	4	1,155	4	1,242
Roxana	Johnson	13- 7-6	3	2,385	3	2,518
Total Roxana			8	3,781	8	3,796
Shaffer	Narcome	36- 8-6	2	175	2	200
Sinclair	Cosar	36- 8-6	3	770	3	845
Sinclair	Haney	12- 7-6	1	110	1	105
Sinclair	Tewee	14- 7-6	2	2,175	2	2,315
Sinclair et al.	Pompey	24- 7-6	1	125	1	445
Total Sinclair			7	3,180	7	3,710
Skelly	Carl	14- 7-6	2	2,000	2	2,216
Slick	Reed	13- 7-6	1	895	1	1,380
Slick	Williams	15- 7-6	2	717	2	575
Total Slick			3	3,612	3	1,955
Snowden et al.	Tiger	13- 7-6	3	1,530	3	1,650
Superior	Potulka	31- 8-6	1	5	1	5
Superior	Soketheche	1- 7-6	1	0	1	0
Total Superior			2	5	2	5
Texas	Brooks	25- 8-6	1	105	1	160
Texas	Coker	1- 7-6	3	540	3	600
Texas	Janey	11- 7-6	3	1,335	3	1,510
Tex-Indep.	Hotulke	23- 7-6	3	1,590	3	1,735
Total Texas			9	3,570	9	4,005
Tidal	House	1- 7-6	3	475	3	480
Tidal	Johnson	1- 7-6	1	25	1	25
Total Tidal			4	500	4	505
Twin State	Lowe	25- 8-6	1	135	1	130
TOTAL LITTLE RIVER			294	120,244	292	127,268

EARLSBORO

Amerada	Anderson	15- 9-5	2	535	2	535
Amerada	Cowden	4- 9-5	7	1,221	7	1,170
Amerada	Rogers	3- 9-5	2	147	2	178
Total Amerada			11	1,903	11	1,883
Atlantic et al.	Foreman	18- 9-5	1	145	1	140
Barnsdall	Brown	10- 9-5	4	1,737	4	2,135
Barnsdall	Bruner F	2- 9-5	3	303	3	289
Barnsdall	Bruner	10- 9-5	3	784	3	431
Barnsdall	Cudjo	14- 9-5	1	23	1	23
Barnsdall	Davis D	11- 9-5	3	213	3	239
Barnsdall	Davis J	11- 9-5	4	1,332	4	1,039
Barnsdall	Davis M	11- 9-5	2	57	2	63
Barnsdall	Gibson	9- 9-5	8	1,989	8	1,976
Barnsdall	Hern	15- 9-5	1	1	1	2
Barnsdall	Ingram	1- 9-5	8	937	8	933
Barnsdall	Pack	10- 9-5	4	128	4	166
Barnsdall	Peter	10- 9-5	4	92	4	93
Barnsdall	Sango	1- 9-5	4	2,170	4	2,246
Barnsdall	Sebolka	15- 9-5	1	273	1	289
Barnsdall	Sullivan H	11- 9-5	1	12	1	19
Barnsdall	Sull-Harjo	10- 9-5	2	31	2	33
Barnsdall	Watsutke	12- 9-5	4	876	4	525
Total Barnsdall			57	10,958	57	10,471
Burk Greis	Wisner	6- 9-6	1	990	1	1,010
Carter	Davis	13- 9-5	2	125	2	170
Carter	James	6- 9-5	4	4,050	4	4,588
Carter	Sango	1- 9-5	1	10	1	15
Total Carter			7	4,185	7	4,773
Continental	Kays	2- 9-5	2	10	2	60
Continental	Spencer	12- 9-5	4	1,185	4	1,130
Total Continental			6	1,195	6	1,190
Empire	Barker	12- 9-5	1	85	1	85
Empire	Edmundson	3- 9-5	3	168	3	110
Total Empire			4	253	4	195
Gypsy	Bruner	10- 9-5	4	3,860	4	3,567
Gypsy	Carter B	11- 9-5	8	3,740	8	3,750
Gypsy	Earl	16- 9-5	1	17	1	19
Gypsy	Hunick	6- 9-5	1	1,905	1	1,957
Gypsy	Noble	12- 9-5	4	1,820	4	1,725
Gypsy	Peter	10- 9-5	3	290	3	275
Gypsy	Sango	1- 9-5	11	4,970	11	5,070
Gypsy	State	16- 9-5	4	1,090	4	850
Total Gypsy			36	17,692	36	17,173
Independent	Bruner	10- 9-5	3	465	3	465
Independent	Sullivan	10- 9-5	1	20	1	22
Independent	Knapp	8- 9-5	3	1,315	3	1,205
Indep.-Margay	Gaines	11- 9-5	3	750	3	450
Total Independent			10	2,550	10	2,142
Magnolia	Bryant	9- 9-5	6	315	6	402
Magnolia	Cowden	4- 9-5	4	28	4	35
Magnolia	Dixon	12- 9-5	1	22	1	23
Magnolia	Edmundson	3- 9-5	2	5	2	15
Magnolia	Holmsley	11- 9-5	7	802	7	700
Magnolia	Hyde	13- 9-5	1	1,537	1	1,502
Magnolia	Ingram	10- 9-5	1	32	1	16
Magnolia	Lena	10- 9-5	3	49	3	49
Magnolia	Seay	12- 9-5	9	2,715	9	2,547
Magnolia	Simpson	10- 9-5	4	461	4	479
Magnolia	Sparks	11- 9-5	7	820	7	823
Magnolia	Sullivan	12- 9-5	3	105	3	105
Total Magnolia			48	6,891	48	6,696
Mid-Cont.	McCumber	9- 9-5	7	87	7	67
Mid-Kans.	Anderson	14- 9-5	3	60	3	65
Phillips	Dunnaway	14- 9-5	1	23	1	25
Prairie	Baker	24- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	3	2,760	3	2,786
Prairie	Graham C	3- 9-5	2	10	2	25
Prairie	Graham O	10- 9-5	4	915	4	1,105
Prairie	Stidham	11- 9-5	11	1,845	11	2,090
Total Prairie			22	5,580	22	6,055
Roxana	Bayliss	17- 9-5	1	15	1	15
Roxana	Hearn	13- 9-5	1	125	1	128
Roxana	Spencer	12- 9-5	2	641	2	1,306
Total Roxana			4	781	4	1,449
Shaffer	Clark	1- 9-5	3	215	3	222
Shaffer	McCoy	36-10-5	1	990	1	1,135
Total Shaffer			4	1,205	4	1,357
Sinclair	Foreman	18- 9-5	1	15	1	15
Sinclair	Hollins	12- 9-5	1	50	1	35
Sinclair	Sango	2- 9-5	4	3,000	4	3,045
Total Sinclair			6	3,065	6	3,095
Skelly	Mays	1- 9-5	1	2,643	1	2,745
Skelly	Shephard	6- 9-6	1	1,285	1	1,409
Skelly	Sherry	6- 9-6	2	1,707	2	1,678
Skelly	Spencer	12- 9-5	1	544	1	501
Total Skelly			5	6,179	5	6,333
Slick et al.	Campbell	6- 9-6	2	510	2	786
Superior	Ingram	1- 9-5	1	984	1	1,000
Superior	Walker	2- 9-5	3	3,036	3	2,949
Total Superior			4	4,030	4	3,949
Texas	Anderson	2- 9-5	8	400	8	415
Texas	Brown	10- 9-5	8	437	8	470
Texas	James	6- 9-6	1	385	1	605
Texas	Rogers	5- 9-5	4	2,415	4	2,440
Texas	Wilmott	10- 9-5	7	600	7	725
Total Texas			28	4,237	28	4,655
Tidal	Walker	36-10-5	1	1,895	1	1,995
Tidal	Watkins	9- 9-5	7	2,710	7	2,845
Total Tidal			8	4,605	8	4,840
Twin State	Barker	12- 9-5	3	59	3	39
Twin State	Hern	2- 9-5	4	180	4	295
Total Twin State			7	239	7	334

SUMMARY

TOTAL EARLSBRO	**282**	**76,243**	**282**	**78,713**
TOTAL BOWLEGS	**311**	**50,773**	**311**	**51,856**
TOTAL SEMINOLE	**287**	**43,623**	**287**	**42,376**
TOTAL SEARIGHT	**67**	**11,230**	**67**	**11,524**
TOTAL LITTLE RIVER	**294**	**120,244**	**292**	**127,268**
GRAND TOTAL SEMINOLE AREA	**1,241**	**302,113**	**1,239**	**311,737**
Average per well		**243**		**252**

Completions in Oklahoma and Kansas, Week Ended November 3, 1928

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Anderson et al	1	SWc NW SW 24-1-3 W	2621-2675	135
Magnolia	6	NWc SE 33-1-3 W	T.D. 3930	Dry

Cotton County

Cullum et al	4	SEc NE 3-2-10 W	2186-2262	30

Creek County

Gled	2	NWc SW NW 17-18-9	2205-2485	1M
Irelan	2	C NW SE 11-17-10	2026-2080	15
Houston-Silurian	1	NEc NW 7-19-7 E	3141-3149	525
Haddock et al	1	NEc SE SW 16-17-9	T.D. 3368	Dry
Shaffer et al	1	SEc SW NW 34-16-10	T.D. 3099	Dry
Riverland et al	1	SEc NE SE 9-16-12	T.D. 2150	Dry

Garvin County

Magnolia	11	NEc SE NW 14-1-3 W	1552-1720	34

Grady County

Stogner et al	11	SWc NE 23-5-8 W	2008-2290	18M
Little Nick	4	SEc SE 26-5-8 W	2114-2398	30M
Commerce Dev.	3	SWc SW 13-4-8 W	2273-2360	25M
Carter	4	NWc SE SW 27-3-5 W	1678-1681	22
Farley et al	1	C NE NW 24-4-8 W	T.D. 2575	Dry

Kay County

Ingram-Wilson	1	SWc SE SW SW 14-27-1 E	850-885	1M
Ingram-Wilson	2	C NL S½ NE 36-28-1 W	722-728	7.2M

Kiowa County

Alexander et al	2	CNL NE NE 18-6-16 W	T.D. 502	Dry

Muskogee County

Gleddin	1	SEc NW NE 19-15-15 E	T.D. 1832	Dry
Grubbs-Young	3	CWL SW NW 8-15-15 E	1149-1190	6M

Okfuskee County

Umburn	4	SEc NE NE SE 11-10-11	2010-2027	60
Umburn	1	SEc SW SE 2-10-11	1631-1651	30
Henry	2	SWc NE 5-11-11	T.D. 3870	Dry

Okmulgee County

Misener	5	SEc SW NW 11-13-14 E	T.D. 1310	Dry
Selby	10	C NW NW 6-14-15 E	T.D. 1650	Dry
Misener	11	NWc SW NW 11-15-14 E	T.D. 1760	Dry
Harsha et al	1	SWc NW 35-16-14	T.D. 1923 OWD	Dry
Pine	1	SEc NE NE 30-12-13 E	2121-2143 OWD	20
Jolly et al	1	SEc SW 33-15-14 E	1658-1670	8

Osage County

Moore-Ohio Osage	3	NWc NW 16-21-9 E	223-255	20
Phillips	10	NWc SW SE 17-27-6 E	2970-2975	50
Moore-Ohio Osage	15	NWc SW SW 9-21-9	292-314	20
Okla. Natl	1654	SEc NE SE 28-21-11	T.D. 1916	Dry

Pontotoc County

Ramsey	1	SEc NW SW 17-5-8 E	2366-2376 OWD	210
Ramsey	1	SWc NW SE 17-5-8 E	2412-2550 OWD	180
Westheimer-Daube	5	SWc NE 19-5-8 E	2555-2612	240
Portland Cement	2	CNW SW 24-4-7 E	1370-1372	7M

Pottawatomie County

Sinclair	6	SEc NW SW 24-7-4 E	4233-4373	500
Sinclair	7	NEc NW SW 24-7-4 E	4135-4184	275
Sinclair	8	NWc NE SW 24-7-4 E	4130-4163	590
Sinclair	9	SEc NE SW 24-7-4 E	4155-4189	735
Sinclair	10	NEc SE SW 24-7-4 E	4325-4355	325
Sinclair	11	SWc SE SW 24-7-4 E	4160-4223	240
Sinclair	2	NEc SE SE 24-7-4 E	3936-3948	243
Sinclair	1	CNL N½ NE 26-7-4 E	4213-4256	1630
Independent	8	SEc NE SE 19-7-5 E	4128-4150	1550
Sinclair	4	SEc NW SW 19-7-5 E	4293-4297	80
Sinclair	5	NEc SW SW 19-7-5 E	4150-4167	235
Sinclair	6	NEc NW SW 19-7-5 E	3903-4012	160
Slick	2	SEc SW 19-7-5 E	4250-4276	1542
Magnolia	1	NEc SE SW 20-7-5 E	4235-4251	452
Magnolia	4	SWc NW SW 20-7-5 E	4188-4213	2038
Magnolia	5	SEc SW SW 20-7-5 E	4250-4296	2712
Phillips	3	SWc NW NE 30-7-5 E	4330-4371	1107

Seminole County

Phillips	1	SEc SW 31-8-7 E	T.D. 4407	Dry
Slick	3	NEc SE 15-7-6 E	T.D. 4757	Dry
Louisiana	2	SWc SE SW 7-5-8 E	2694-2734	200
Sunray	1	NEc NW 19-5-8 E	2627-2708	623
Superior et al	3	NEc NE 2-9-5 E	4431-4433	325
Carter	3	SWc NE SW 6-9-6 E	4573-4583	555
Texas	1	NWc SE 6-9-6 E	4367-4377	705
Indep. et al	4	SWc SE 2-7-6 E	4150-4171	480
Carter	2	SWc NE NW 11-7-6 E	4330-4357	452
Texas	4	NWc NE SW 11-7-6 E	4530-4541	345
Independent	3	SEc SW SW 13-7-6 E	4397-4408	1050
Independent	4	NWc SE 14-7-6 E	4410-4420	759
Reiter-Foster	4	NEc NW SW 14-7-6 E	4269-4280	560
Carter	3	NWc SW NE 23-7-6 E	4412-4416	290
Texas	3	NEc SW NW 23-7-6 E	4370-4377	555

Stephens County

Petroleum Prod	1	SWc NE NE 6-1-8 W	T.D. 2559	Dry
Pearce-Brown	1	NWc SE 10-1-8 W	T.D. 2513	Dry

Tulsa County

Ellen	1	NEc SW 25-18-14	T.D. 1341	Dry

Wagoner County

Kiskaddon	2	NEc SE NE 8-15-16 E	T.D. 1396	Dry
Rowland	1	NWc SW 17-17-16 E	T.D. 1112	Dry

KANSAS

Butler County

Garden et al	2	SW NW NE 6-27-6 E	2724-2450	128

Cowley County

White Eagle	1	SE NE SE 26-34-5 E	T.D. 3645	Dry

Elk County

Pure	2	NWc SW 13-31-10 E	T.D. 1754	Dry
Denton et al	1	NE NW NW 10-31-10 E	T.D. 2321	Dry
Superior-Devore	1	SE NE NW 4-30-9 E	T.D. 2419	Dry
Jacon	2	SW NW SW 3-30-9 E	T.D. 750	Dry
Ozark Drlg	1	NW SE NW 10-31-10 E	1979-2025	10

Greenwood County

Skelly	7	NW SE NE 30-22-13 E	1665-1684	35
Syndicate-Phillips	1	NWc NE 35-23-11 E	1847-1870	250
Derby et al	1	SWc 21-22-13 E	T.D. 1841	Dry

McPherson County

Merriman et al	1	C SW 29-18-2 W	2945-2951 OWD	4M

Rooks County

Empire	1	NE SE NW 15-8-18 W	T.D. 3450	Dry

Russell County

Gypsy	1	C NE SE 10-13-15 W	T.D. 3448	Dry

Sumner County

Jarvis et al	1	SEc SW 4-34-3 W	T.D. 4686	Dry
Shawver et al	1	SEc NE 27-34-2 E	3505-3520	100
Harris-Haun	1	C NW NE 23-34-2 E	3791-3793	45

New Field Operations in Oklahoma, Kansas, Panhandle, North, North Central and West Texas, Week Ended November 3, 1928

OKLAHOMA

Beckham County

Company	Well No. Farm	Location
Carson et al	1-Denby	SWc SE NE 20-8-22 W

Carter County

Magnolia	3-Choens	SEc SW 33-1-3 W
Magnolia	3-Pollock	NEc SE SE 14-1-3 W

Creek County

Collins et al	1-Sapulpa	SEc NE SE 3-17-14
Wilson	1-Cat	SEc SW 31-16-9
Tibbens	2-Unallotted	CEL NE NW 9-14-10
Sand Springs Home	28-Atkins	CWL NW NW 4-18-7 E
Pine-Smith	1-Tiger	SWc SE 17-17-7 E
Magnolia	9-Lewis	SWc SW 27-17-7 E
Magnolia	2-Wattie	NEc NE 6-15-7 E
Twin State	1-Barnett	NWc NE NW 15-15-8 E

Grady County

Magnolia	8-Smith	NWc SE NE 35-5-8 W

Hughes County

Bunte et al	1-Buckner	NEc NW 12-8-8 E
Texas	1-Street	NEc NW SW 21-7-8 E

Kay County

Ingram-Wilson	1-Cenver	SE NW 14-27-1

Kiowa County

Allen Bros	1-Howell	NWc SE 13-1-17 W

Muskogee County

Graves et al	5-Flowers	C SE NW 5-13-16 E
Bement	4-Flowers	CWL SW NE 5-13-16 E
Lockwood et al	1-Lewis	SEc SE 31-14-16 E
Davis et al	1-Morris	NEc NW SW 20-15-15 E
Grubbs-Young	4-Friday	NWc SW NW 8-15-15 E

Okfuskee County

Misener et al	1-Bird	NWc NE 21-10-11
Atlantic	2-Robinson	CWL NW SW 12-10-11
Umburm	2-Sullivan	SWc SE SE 1-10-11

Oklahoma County

I. T. I. O.	1-Community	CNE SW 13-11-3 W

Okmulgee County

Tidal	10-Mathews	SWc SE 24-15-14
Swindler	10-Lewis	CNL NE SE 20-15-14 E
Devonian	1-Chamberlain	SWc SE 35-15-12
Wentz et al	1-Densen	NEc SW SE 14-14-12

Osage County

Winona	25	SEc NE SE 28-24-10
Texas	1	NWc SE 22-24-7
Phillips	1	SWc NW NE 33-25-6
Minnehoma	3	NWc SE 11-26-8

Pawnee County

DeLong et al	2-Rogers	NWc SE NW 11-20-7 E

Pontotoc County

American	1-Robertson	NWc NE SW 19-5-5 E
Belchie-Laskey	1-Haney	CW½ 31-5-7 E
Louisiana	12-Perry	NEc NE 19-5-8 E. OWD
Westheimer-Daube	7-Wade	NEc SE SW 19-5-8 E
Homaokla	9-Shields	SWc NE NE 4-4-8 E

Pottawatomie County

Company	Well No. Farm	Location
Westheimer-Daube	6-Freid	SEc SW NW 24-7-4 E
Sinclair	4-Neeley	SWc NW SW 25-7-4 E
Gypsy	4-Dodson	SWc NE SE 26-7-4 E
Gypsy	1-Roseman	NEc NW NE 26-7-4 E
Pure	2-Dodson	NWc SE SE 26-7-4 E
Tidal	1-Smith	NEc NW SE 26-7-4 E
Tidal	2-Smith	SEc NW SE 26-7-4 E
Magnolia	1-Carroll	SWc NW SE 1-7-5 E
Roxana	1-Lowe	SWc NW NE 17-6-5 E
Twin State	1-Colin	NEc SW 7-8-5 E
Independent	1-Harding	SEc NW 18-8-5 E
Pure	3-Lindley	NWc SE 18-8-5 E
Tidal	1	NEc SW SW 18-8-5 E
Darby	1-Ketchum	NEc SE NW 19-8-5 E
Phillips	2-Hudson	SEc NE NW 19-8-5 E
Pure	1-Urbanskey	NWc SW NE 19-8-5 E
Sinclair	4-Bellars	SWc NW NE 19-8-5 E

Seminole County

Sunray	2-Sarney	SEc NE NW 19-5-8 E
Skelly	4-Mayes	NWc SE NE 1-9-5 E
Gypsy	2-Mosar	NEc SE NE 1-8-5 E
Gypsy	3-Mosar	SEc SW NE 1-8-5 E
Independent	1-Lawson	NEc SE 1-8-5 E
Independent	2-Lawson	SEc NE SE 1-8-5 E
Independent	3-Lawson	NEc SE SE 1-8-5 E
Independent	4-Lawson	SEc SE 1-8-5 E
Shaffer	1-Weaver	NEc NE 12-8-5 E
Tidal	1-Sally	NEc SE 12-8-5 E
Twin State	1-Ripley	SEc NE 12-8-5 E
I. T. I. O.	1-Cully	SEc SW NE 10-8-5 E
Amerada	1-Rice	SWc SE SE 5-8-6 E
Amerada	2-Rice	SEc SE 5-8-6 E
Gypsy	2-Mission	SEc SW 5-8-6 E
Gypsy	3-Mission	SWc SE SW 5-8-6 E
Gypsy	4-Mission	SEc SW SW 5-8-6 E
Gypsy	2-Barkus	SWc SE SW 6-8-6 E
Gypsy	3-Barkus	SEc SW SW 6-8-6 E
Gypsy	4-Barkus	SWc SW 6-8-6 E
Gypsy	5-Barkus	NWc SW 6-8-6 E
Gypsy	6-Barkus	CSL N½ SW 6-8-6 E
Gypsy	5-Mission	SEc SE 6-8-6 E
Gypsy	6-Mission	NWc SE SE 6-8-6 E
Gypsy	7-Mission	SWc NE SE 6-8-6 E
Twin State	2-Judy	CSL N½ S½ 6-8-6 E
Gypsy	1-Barkus	SEc SW NW 7-8-6 E
Gypsy	2-Barkus	SWc NW 7-8-6 E
Gypsy	2-Doser	NWc SE NE 7-8-6 E
Gypsy	3-Doser	SWc NE NE 7-8-6 E
Gypsy	4-Doser	NEc NE 7-8-6 E
Gypsy	1-Hardy	NEc SW NE 7-8-6 E
Gypsy	2-Hardy	SWc NE 7-8-6 E
Gypsy	3-Hardy	SEc NW 7-8-6 E
Gypsy	4-Hardy	SWc SE NW 7-8-6 E
Gypsy	1-Harjo	NEc SE 7-8-6 E
Gypsy	2-Harjo	SEc NW SE 7-8-6 E

New Field Operations in Oklahoma, Kansas, Panhandle, North, North Central and West Texas, Week Ended November 3, 1928 (*Continued*)

Company	Well No. Farm	Location	Survey
Gypsy	3-Harjo	NEc NW SE 7-8-6 E	
Independent et al.	2-Payne	NWc NE NW 7-8-6 E	
Independent et al.	3-Payne	SWc NE NW 7-8-6 E	
Independent et al.	4-Payne	SEc NE NW 7-8-6 E	
Minnehoma	2-Neal	NWc NW 7-8-6 E	
Minnehoma	3-Neal	SWc NW NW 7-8-6 E	
Minnehoma	4-Neal	SEc NW NW 7-8-6 E	
Roxana	2-Maines	NEc NW SW 7-8-6 E	
Roxana	3-Maines	SEc SW SW 7-8-6 E	
Roxana-Marland	2-Herndon	SEc NW NE 7-8-6 E	
Carter	2-Micco	NEc NW 8-8-6 E	
Gypsy	1-Micco	SWc NW 8-8-6 E	
Gypsy	2-Micco	NWc SW NW 8-8-6 E	
Gypsy	1-Micco	NEc NW NE 8-8-6 E	
Gypsy	2-Micco	NWc NE 8-8-6 E	
Twin State	2-Hayes	NEc NE 8-8-6 E	
Carter	2-Fuswa	NEc NW NW 10-8-6 E	
Carter	4-Harjo	SEc NW SW 13-7-6 E	
Independent	4-Davis	NEc SW SW 13-7-6 E	
Pure	10-Cotcha	SEc NE 23-7-6 E	
Carter	4-Larney	SEc NW NW 24-7-6E	
Pure	2-Brinson	NWc SW 24-7-6 E	
Stephens County			
Snodgrass	1-Malernee	SWc NE NW 34-1-8 W	
Tulsa County			
Rexaline	1-Hutching	SWc SW 27-17-12	
Wagoner County			
Peterson-Young	1-Mitchell	CWL NW SE 23-16-16 E	
Gillett	6-McIntosh	NEc NW NW SE 25-17-16 E	
KANSAS			
Butler County			
Wentz	1-Eckel	NW SW NE 17-27-7 E	
Rosenthal et al.	12-Shaffer	NE SW SE 4-27-6 E	
Davis-Hazlett	9-Lewis	SE NW SW 3-27-6 E	
Empire	5-Willets	SEc SW 27-27-5 E	
Amerada	1-Bolin	SW SE NW 36-26-6 E	
Paul et al.	1-Unger	CSL SE SW 31-26-6 E	
Cowley County			
Torrance et al.	1-Townsite	NWc SW SE SE 13-33-6 E	
Ky. Nitro. & Oxyg.	1-Day	CEL SW SW 7-33-7 E	
Elk County			
Wilson-Jones	2-Walker	SE NW SE 5-31-10 E	
Griggen-Bell	5-Colier	SW NE NW 30-30-10 E	
McCullough	1-Dunlap	C NW NE 13-29-9 E	
Sonner	1-Townlot	NW SE SW 10-31-10 E	
Sherman et al.	2-Armstrong	SWc NW 10-31-10 E	
Greenwood County			
Amerada	4-Luthi	NW NE SW 29-22-13 E	
Simmons-Rhodes	2-Luthi	NW SW SW 29-22-13 E	
Simmons-Amerada	6-Ellis	SWc SE 26-23-11 E	
Simmons-Amerada	7-Ellis	SEc SW 26-23-11 E	
Kayser	1-Moore	SWc 5-26-10 E	
Franklin County			
Haworth-Howard	1-Barton	C NW SE 25-16-17 E	
Howard-Haworth	2-Barton	C NE SE 25-16-17 E	
Lyon County			
Simmons	1-Heidrick	SEc NW 35-21-11 E	
Marion County			
Empire	1-Suderman	SEc NE 12-19-2 E	
Darby	1-Nickel	NEc SE 12-19-2 E	
Roxana	1-Funk	NWc SW 7-19-3 E	
Empire	1-Jenson	SEc NW 26-22-5 E	
McPherson County			
Amerada	1-Rosenburg	SW SE NW 31-18-2 W	
Morris County			
Loomis-Anderson	1-Sisson	NWc SE 14-17-7 E	
General Utilities	1-Pape	NEc 15-16-7 E	
Russell County			
Day et al.	4-Mermis	NE SE NE 32-13-15 W	
Sedgwick County			
Simmons-Canary	1-Hoover	SWc SE 9-26-1 E	
Lewis et al.	1-Taylor	NWc NE 23-27-2 E	
TEXAS			
NORTH EAST CENTRAL TEXAS			
Brown County			
Young Bros. et al.	15-Hickman	Blk-783	Benson
Young Bros. et al.	14-Hickman	Blk-783	Benson
Kone Prod.	19-Hickman	Blk-783	Benson
Cranfill-Reynolds	16-Eubanks	Blk-141	Mitchell
Barnsdall	1-DeBush	Blk-146	Williams
Midland	10-Butler	Blk-783	Benson
Lloyd	9-Collier	Blk-139	Smith
Kerr et al.	1-Hale	Blk-607	Cunnings
Ramsey	1-Wooldridge		Wooldridge
United Royalties	2-Barnes	Blk-105	Hawkenburg
Atlantic-Bartlett	1-Green	Blk-76	Gooseley
Hammer-Heyser-Garrett	6-Curry	Blk-624	Kenney
Burris et al.	9-Newton	Blk-151	Curlong
Callahan County			
Warren	1-Hearn	Sec-129	BBB&C
Reiter-Foster	1-Hatchett	Sec-24	D&DA
Calloway	4-Klutts	Sec-43	Comal Co. Sch. Land.
Reiter-Foster	2-Hatchett	Sec-24	D&DA
Eubanks & Son	2-Eubanks	Sec-48	Comal Co. Sch. Land.
Beddingfield et al.	4-Cavanbaugh	Sec-47	Comal Co. Sch. Land.
Moutray	1-Hatchett	Sec-29	D&DA
Texas	1-Hatchett	Sec-29	D&DA
Crobb-McNeil et al.	1-Jones	Sec-85	Comal Co. Sch. Land.
Coleman County			
Cameron et al.	1-Gay	Blk-630	Fisk
Tower-McKanna	2-Moody	Sec-10, Blk-665	Scott
Texas	2-Hays	Blk-93	Bond
Pierce et al.	1-Eddington	Blk-170	Scott
Cunningham et al.	4-Jennings	Blk-94	Lipscomb
Independent	1-Overall	Blk-700	Barkley
Continental-Atlantic	2-Overall	Blk-700	Barkley
Continetnal et al.	9-Overall	Blk-701	Barkley
Eastland County			
Teatsworth et al.	4-Johnson	Sec-11, Blk-4	H&TC
Goodin et al.	2-Parker		Van Norman
Clark et al.	1-Ferguson	Sec-10, Blk-2, Abst-1141	ET
Lewis et al.	1-Johnson	Sec-14, Blk-4	H&TC
Root et al.	2-Noble	Sec-25, Blk-4	H&TC
Dale	12-Fox	Sec-58	McLennon Co. Sch. Ld.
Fort Ring	1-Jones	Blk-5	Howell
Fort Ring	1-Calvert	Blk-9	McLennon Co. Sch. Land.
Jack County			
Buttrum	10-Jones	Sec-5	SP
Jones County			
Richardson Bros.	1-Martin	Sec-13	Weight
Phillips	4-Mason	Sec-18, Blk-19	T&P
Neely et al.	1-Blaum	Sec-20	DeWitt Co. Sch. Land.
McCulloch County			
Lunning et al.	1-Barton	Blk-1054	Bleike
Palo Pinto County			
Upham	6-Edmondson	Abst-49	Bourne
Shackelford County			
Hodges et al.	8-Mathews	Sec-29	ET
Texas	5-Sedwick	Sec-1	ET
Stephens County			
Clark	1-Jackson	Sec-20, Blk-6	T&P
Baldwin et al.	1-Jackson	Sec-44, Blk-6	T&P
Taylor County			
Mid-Kansas	1-Paramour	Sec-81, Abst-1381	Anderson
Burnham et al.	1-Amyx	Sec-26, Blk-7, Abst-1769	SP
Throckmorton County			
Bokeer-Credicat	2-Bowning	Sec-912	TE&L
Hays-Lewis	1-Carpenter	Sec-144	TE&L
NORTH TEXAS			
Archer County			
Wilson et al.	1-Kunkel	Abst-394	Sandford
Underwood Drlg.	2-Andrews	Sec-1805	TE&L
Madden-Hunt	10-Richardson	Blk-1	SAR
Gulf Prod.	6-Hayter	Sec-2409	TE&L
Gwynn	1-Echals	Sec-2418	TE&L
Gilliland	8-Neimeyer	Sec-2415	TE&L
Rose et al.	1-Parkey	Blk-39	Dallas Co. Sch. Ld.
Young et al.	1-Taylor	Sec-1, Abst-428	SP
Scott	1-Jackson	League-4, Blk-25	DCSL
Cooke County			
Kewanee	3-Hyman	Abst-363	ET
Pure	2-Embry	Abst-736	Moss
Grayson County			
Price et al.	1-Jewell	Blk-34, Abst-1249	Toby
Wichita County			
Stumpf et al.	1-Hamilton et al.	Blk-22, League-4	DCSL
Lomax-Texas	1-Chilson	Blk-6, League-4	DCSL
Nines-Panhandle	9-Waggoner	Abst-772	GC&SF
Panhandle et al.	3-Burnett	Abst-464	Meade
Humble-Empire	1-Hines	Sec-11, Abst-147	H&GN
Holbrook-Woods	23-Kemp et al.	Sec-82, Abst-139	HT&B
Knight	1-Mitchell	Blk-21, Abst-51	CT
Wilbarger County			
Baker et al.	8-Waggoner	Abst-461	Purnell
Schucht et al.	1-Waggoner	Sec-39, Abst-492	MEP&P
Apple-Brandeberry	1-Waggoner	Sec-32, Blk-4	H&TC
Young County			
Riggs et al.	3-Sweet	Sec-1488	TE&L
Allday-Carter	7-Johnson	Blk-14, Abst-253	Sergeant
Allday-Carter	6-Johnson	Blk-14, Abst-253	Sergeant
Kleiner et al.	7-Davis	Sec-1487	TE&L
Reed-Pennell	1-Casey	Sec-1486	TE&L
Creath-Kell	1-Wright	Sec-1500	TE&L
Roberts-Atlantic	1-Hamilton	Sec-3401	TE&L
Underwood Drlg. et al.	2-Campbell	Sec-1390	TE&L
Smith et al.	1-Grubbs	Sec-647	TE&L
Creath-Kell	1-Nall	Sec-1997	TE&L
PANHANDLE			
Gray County			
Gardner Bros. et al.	1-Saunders	Sec-3	B&B
Arnold	1-Mongole	Sec-212, Blk-3	I&GN
Gulf Prod.	6-Bowers	Sec-89, Blk-B-2	H&GN
Ray-Massie	4-Chapman	Sec-51, Blk-25	H&GN
Eslick et al.	1-Hopkins	Sec-84, Blk-B-2	H&GN
Texas	5-Chapman	Sec-51, Blk-25	H&GN
Magnolia	3-Harrah	Sec-150, Blk-3	I&GN
Hutchinson County			
Phillips	19-Martin-Perkins	Sec-1, Blk-X-02	H&B
Phillips	2-Jasper	Sec-23, Blk-M-23	TC
Phillips	1-Dugan et al.	Sec-72, Blk-46	H&TC
Moore County			
Fritch	1-Bivins	Sec-4	Parmer
Wheeler County			
Arnold et al.	1-Wilson	Sec-5, Blk-24	H&GN
WEST TEXAS			
Culberson County			
Deep Rock et al.	2-Seay	Sec-20, Blk-59	T&P
Howard County			
Magnolia	16-Roberts	Sec-136, Blk-29	W&NW
Marland	10-Clay	Sec-139, Blk-29	W&NW
Magnolia	17-Roberts	Sec-136, Blk-29	W&NW
Irion County			
Furhman	1-Suggs	Sec-3009, Blk-24, Lease-3	H&TC
Furhman	1-Suggs	Sec-3029, Blk-24, Lease-2	H&TC
Furhman	1-Suggs	Sec-3024, Blk-24, Lease-1	H&TC
Sun	1-Williams	Sec-39, Blk-21	H&TC
Pecos County			
Phillips	2-Hyman	Sec-10, Blk-125	T&ST.L
Red Bank	5-Smith	Sec-24, Blk-194	TC
Mid-Kansas-Trans.	4-Yates	Sec-63, Blk-1	I&GN
Reeves County			
Kitsos et al.	1-Kloh	Sec-5, Blk-54	T&P
Upton County			
Gulf Prod.	7-Yates	Sec-3	GC&SF
Winkler County			
Republic Prod.	11-Hendricks	Sec-45, Blk-26	PSL
Southern Crude	T88M30-Hendricks	Sec-33, Blk-26	PSL
Southern Crude	T88S4-Hendricks	Sec-34, Blk-26	PSL
Southern Crude	T89C2-Hendricks	Sec-35, Blk-B-5	PSL
Gulf Prod.	1-Cowden	Sec-3, Blk-B-12	PSL
Atlantic	6-Hendricks	Sec-41, Blk-B-5	PSL
Simms-Atlantic	1-Sealy	Sec-50, Blk-F	CCSD
Wentz	1-Morton	Sec-27, Blk-B-12	PSL
Southern Crude	T88M29-Hendricks	Sec-33, Blk-26	PSL
Southern Crude	T88M28-Hendricks	Sec-33, Blk-26	PSL
Southern Crude	T88J5-Hendricks	Sec-30, Blk-B-5	PSL
Southern Crude	T8817-Hendricks	Sec-30, Blk-B-5	PSL
Southern Crude	T683A5-Hendricks	Sec-35, Blk-B-5	PSL
Pure	12-Hendricks	Sec-45, Blk-26	PSL
Pure	11-Hendricks	Sec-45, Blk-26	PSL
Prairie	1-Morton	Sec-27, Blk-B-12	PSL
Prairie	1-Dougherty	Sec-16, Blk-47	PSL

Completions in Texas, Week Ended November 3, 1928

NORTH EAST CENTRAL TEXAS

Brown County

Company	Well Farm	Survey	Sec. and Blk.	Depth	Init. Prod.
Lloyd	7-Collier	Smith		422-431	7
Hammon et al.	4-Lewis	Kenney		1061-1080	53
Garr et al.	1-Hill	Walker		890-900	1M
Burris et al.	8-Newton	Curlong		1181-1209	50
Lloyd	8-Collier	Smith		419-431	35
Texas Fidelity	1-Butler	Benson		T.D. 1298	Dry
Amerada	1-Edmondson	Townsend		T.D. 1330	Dry

Callahan County

Warren	1-Searle	BBB&C	Sec-130	T.D. 783	Dry
Starr	1-Jones	D&DA	Sec-40	T.D. 520	Dry
Humble	1-Herd Bros.	T & P	Sec-68 Blk-14	T.D. 2288	Dry
Beddingfield et al.	1-McDermott	Comal Co.Sch.Ld.	Sec-46	T.D. 535	Dry
Dickey	3-Williams	D&DA	Sec-25	T.D. 770	Dry
Beddingfield et al.	3-Cavanaugh	Comal Co.Sch.Ld.	Sec-47	441-447	60

Coleman County

Texas	1-Hays	Bond et al.		1130-1141	65
Ross Drlg. et al.	1-Strickland	WC	Blk-1	T.D. 2572	Dry
Owens	1-Henderson	Wickson		T.D. 1751	Dry
Newsome et al.	1-Fletcher	Martinez	Sec-5 Blk-151	T.D. 1613	Dry
Midsun	1-Manes	Pool		T.D. 2505	Dry
Joiner et al.	1-Smith	Martin	Sec-21 Blk-752	T.D. 1695	Dry
Feench et al.	1-Freeman	Goodwin	Sec-74 Blk-667	T.D. 2005	Dry
Curry et al.	1-Neeb	Comal Co.Sch.Ld.	Sec-98	T.D. 2862	Dry

Eastland County

Texas-Pacific	2-Fee	Delano		T.D. 792	Dry
Cranfill-Reynolds	1-Kleinke	ET	Sec-19 Blk-2	T.D. 3157	Dry
Hoffman-Page	2-Webb	H&TC	Sec-26 Blk-2	1251-1270	5
Harbin	2-Coon	H&TC	Sec-27 Blk-2	2166-1280	12

Haskell County

Phillips	1-Moeller	Mathis	Sec-3	T.D. 4548	Dry

Jones County

Pandem	1-Cox	T&P	Sec-43 Blk-14	T.D. 1700	Dry
Roberts et al.	4-Grayson	T&P	Sec-13 Blk-19	2506-2516	25
Hucony et al.	3-Tyner	T&P	Sec-14 Blk-19	2523-2575	38

McCullough County

McLean et al.	1-Roberts	Mitchell	Blk-102	T.D. 1093	Dry
Dutton et al.	1-Land	H&GN	Blk-193	T.D. 1082	Dry

Mitchell County

Owen et al.	1-Brown	T&P	Sec-93 Blk-26	T.D. 1375	Dry

Palo Pinto County

Berry Bros. et al.	1-McDonald	T&P	Sec-35 Blk-2	T.D. 2005	Dry
Garden et al.	1-Watson	T&P	Sec-39 Blk-1	4267-4275	1.5M

Shackelford County

Roeser-Pendleton	39-Cook	ET	Sec-60	1060-1065	35
Roeser-Pendleton	18-Cook	ET	Sec-61	1232-1241	75
Roeser-Pendleton	16-Cook	ET	Sec-61	1330-1350	80
Texas	4-Sedgewick	ET	Sec-1	541-554	6
Texas	3-Sedgewick	ET	Sec-1	548-552	.75M
Callahan et al.	5-Nail	ET	Sec-150	1536-1542	11
Atlantic	1-Marins	ET	Sec-51	T.D. 1232	Dry
Roeser-Pendleton	1-Cook	ET	Sec-140	T.D. 2085	Dry
Humble	1-Ghio	TE&L	Sec-1527	T.D. 3705	Dry

Stephens County

Beatty	1-McWilliams	SP	Sec-445	T.D. 1727	Dry

Throckmorton County

Reiter-Foster	1-Parrott	YE&L	Sec-961	T.D. 1326	Dry

NORTH TEXAS

Archer County

Texas	20-Richardson	SAR	Blk-7	1295-1313	75
Texas	19-Richardson	SAR	Blk-7	1295-1311	80
Gulf Prod.	5-Hauter	TE&L	Sec-2409	1395-1407	57
Underwood Drlg. et al.	6-Ward	TE&L	Sec-1369	T.D. 1080	Dry
Kidgeway et al.	1-Plowman	Corzine		T.D. 1025	Dry
Madden-Hunt	7-Richardson	SAR	Blk-1	T.D. 1317	Dry
Texas et al.	1-Richardson	SAR	Blk-16	T.D. 1390	Dry

Cook County

Magnolia	1-Johnson	Clarke		T.D. 1872	Dry

Foard County

Panhandle et al.	1-Ong	Seaton		T.D. 2202	Dry

Wichita County

United Prod.	1-Hodges	HT&B	Sec-1	1480-1497	35
Magnolia	4-Pace	Scott		1032-1036	10
Bridwell	1-Burnett	HT&B	Sec-3	1915-1921	37
Panhandle Ref.	2-Burnett	Meade	Sec-6	T.D. 1420	Dry
Murchison et al.	2-Waggoner	George	Sec-33	T.D. 1823	Dry
Moore	1-Burnett	HT&B	Sec-9	T.D. 1850	Dry
Hines-Panh'dle Ref.	8-Waggoner	GC&SF		T.D. 1416	Dry
Empire	7-Ancell	H&TC	Sec-11 Blk-7	T.D. 2200	Dry

Wilbarger County

Hamilton-Martin	1-Waggoner	H&TC	Sec-5 Blk-5	T.D. 2522	Dry
Consolidated	2-Waggoner	Purnell		T.D. 1925	Dry
Simms	7-Waggoner	H&TC	Sec-5 Blk-5	1863-1882	240
Phillips	3-Waggoner et al.	H&TC	Sec-5 Blk-5	1866-1874	98
Fain-McGaha	16-Waggoner	H&TC	Sec-24 Blk-4	2291-2441	720
Waggoner	9-Waggoner	H&TC	Sec-30 Blk-4	2295-2310	195
Texas	15-Waggoner	H&TC	Sec-24 Blk-4	2363-2390	230

Young County

Harrison et al.	1-Allen	TE&L	Sec-1497	T.D. 915	Dry
Allday	9-McKinley	TE&L	Sec-1489	T.D. 528	Dry
Allday et al.	2-Johnson	Sargent		T.D. 545	Dry
Wolfe	6-Lowe	TE&L		T.D. 858	Dry
Stafford et al.	1-Drum	Wood		T.D. 600	Dry
Ramming et al.	1-Hamilton	TE&L	Sec-1394	T.D. 850	Dry
Pettit	1-Swain	TE&L	Sec-1465	T.D. 855	Dry
Magnolia	3-Johnson	Sargent		592-601	17
Lynch et al.	1-Johnson	Sargent		502-515	10
Kennedy et al.	3-Jackson	Sargent	Blk-11	498-508	18
Boller et al.	9-Gregg	Rohus		721-759	21
Allday et al.	1-Johnson	Sargent		498-508	10
Riggs et al.	2-Sweet	TE&L	Sec-1488	519-526	20
Riggs	18-McKinley	TE&L	Sec-1489	553-573	10
Petroleum Prod.	2-Parrish	TE&L	Sec-409	1097-1102	25

PANHANDLE

Carson County

Empire	1-Pope	H&GN	Sec-242 Blk-B-2	2650-2675	37M

Gray County

Gulf Prod.	1-Thut	Zweig		2817-2847	105
Danciger	1-Townsite	Leach		2632-2807	30
Strause-Allen	1-Davidson	H&GN	Sec-87 Blk-B-2	3060-3105	10
Edwards et al.	2-Case	H&GN	Sec-182, Blk-B-2	T.D. 3383	Dry

Hutchinson County

Phillips	1-Jasper	TC	Sec-23 Blk-M-23	3075-3125	25

Wheeler County

Consolidated	1-Ackley	H&GN	Sec-20 Blk-24	1855-1925	53M
Wishkamper	1-Brown	H&GN	Sec-53 Blk-23	1650-1688	41M

WEST TEXAS

Howard County

Green	C-Clay	W&NW	Sec-127 Blk-29	1775-1805	75
Owen-Sloan	5-Roberts	W&NW	Sec-136 Blk-29	2962-3000	1963

Pecos County

Roxana	10-Tippett	TC	Sec-102	1233-1430	365 (1 Hr.
Roxana	2-Smith	TC	Sec-24 Blk-194	1720-1892	240 (6 Hrs.)
Red Bank	4-Smith	GC&SF	Sec-24 Blk-194	1634-1680	16(1 Hr.)
McMann	3-Richardson	GC&SF	Sec-107	1310-1372	220
Gulf Prod.	12-Smith	GC&SF	Sec-28 Blk-194	1574-1671	167
Elmore	2-Holmes	I&GN	Sec-45 Blk-1	T.D. 2140	Dry

Winkler County

Texas-Pacific	1-Dougherty	PSL	Sec-4 Blk-74	T.D. 3242	Dry
Roxana-Texas	1-Hendricks	PSL	Sec-39 Blk-26	3017-3227	100
Roxana-Texas	3-Hendricks	PSL	Sec-39 Blk-26	2753-2755	600(1 Hr.)
Pure	8-Hendricks	PSL	Sec-41 Blk-B-5	3004-3034	10080
Southern Crude	T673A5-Hendrcks	PSL	Sec-4 Blk-B-12	2915-2980	30
Southern Crude	T88M17-Hendricks	PSL	Sec-33 Blk-26	2700-2740	500
Southern Crude	T88S1-Hendricks	PSL	Sec-34 Blk-26	2819-2820	160
Southern Crude	T89F1-Hendricks	PSL	Sec-40 Blk-B-5	2893-3079	300
Cranfill-Reynolds	1-Hendricks	PSL	Sec-33 Blk-26	2735-2847	5000
El Paso Prod.	1-Hendricks	PSL	Sec-30 Blk-B-5	2973-2986	5000
Gulf Prod.	27-Hendricks	PSL	Sec-34 Blk-B-5	2870-3070	223
Gulf Prod.	28-Hendricks	PSL	Sec-45 Blk-26	2524-2590	1333
Southern Crude	T673B3-Hendricks	PSL	Sec-33 Blk-26	2850-3024	150
Southern Crude	T89B2-Hendricks	PSL	Sec-35 Blk-B-5	2835-3015	300
Atlantic	3-Hendricks	PSL	Sec-44 Blk-26	3827-3040	800
Gulf Prod.	29-Hendricks	PSL	Sec-45 Blk-26	2578-2593	450(1 Hr.)
Humble	16-Hendricks	PSL	Sec-34 Blk-B-5	2880-2900	608
Humble	5-Hendricks	PSL	Sec-39 Blk-26	2782-2788	169(1 Hr.)

Completions in North Louisiana and Arkansas, Week Ended November 2, 1928

Louisiana—DeSoto Parish

Company	Well	Location	Depth	Yield
La. Pub. Utilities	Rives No. 1	14-12-12	1010	1M gas

Webster Parish—Shongaloo

Bruce Richardson	Mayfield No. 1	20-23-9	2776	salt water, Aband.

Union Parish

Feazel & Smith	Steele No. 1	16-20-4E	2155	12M gas

East Texas—Harrison County

Nick Barbare	Furrh No. 5	James Short HRS	2381	2M gas

Panola County

Company	Well	Location	Depth	Yield
Nat. Gas & Prod. Co.	Roquemore No. 7	Jordan HRS	2445	5M gas

Arkansas—Johnson County

Arkansas Nat. Gas Corp.	Bynum No. 1	13-10-24	3126	8M gas
Arkansas Nat. Gas Corp.	O. L. Hudson No. 1	14-10-24	2795	10M gas

Union County—Rainbow City

Lion O & R Co.	C. B. Nash No. 4	6-17-13	3032	735 bbls.
Magnolia Pet. Co.	Carroll No. 6	1-17-14	2980	30 bbls.

Completions in California, Week Ended October 27, 1928

Long Beach

Company	Well No.	Location	Depth	Init Prod.
Bailes, Thos.	Miller 1	.....	5509	1600
General Petroleum	K & H 10	.....	6949	420
Herndon Petroleum	No. 9	.....	6254	200
Shell	Alamitos 33	.....	7644	420
	Babb No. 5	.....	6338	828
	Cresson No. 12	.....	7370	1320
	Shell Fee No. 4	.....	7988	2000
Superior	Britton No. 4	.....	7443	110
Texas Co.	Yochem 4	.....	7597	170
Umpire Petroleum	No. 41	.....	6850	195
Woolner Oil	Butler 2	.....	6702	1600

Santa Fe Springs

Texas Co.	Mattern 2-7	.....	5743	3929

Huntington Townsite

Western Drilling & Producing	No. 24	.....	2178	80

Richfield

George W. Johnson	No. 1	.....	3989	360

Midway

Republic Petroleum	No. 31	7-32-23	2927	1550

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended November 3, 1928

	Nov. 3 Loc.	Rigs	Drg.	S.D.	Week Ended Total	Oct. 27 Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Osage	6	12	30	1	49	8	15	23	2	48
Bristow-Cushing	5	9	36	5	55	6	12	28	6	52
N. Oklahoma	5	7	42	25	79	6	4	45	25	80
S. Oklahoma	10	6	75	34	125	11	8	75	28	122
Muskogee	..	9	45	23	77	..	5	50	25	80
Okmulgee-Bris.	7	26	73	29	135	7	27	80	23	137
Seminole Dist.	25	124	304	22	475	18	82	308	24	432
Total Okla.	58	193	605	139	995	56	153	609	133	951
KANSAS	..	*72	222	59	353	..	*59	214	51	324
TEXAS										
Central	44	36	233	148	461	55	24	223	140	442
Panhandle	22	26	92	47	187	11	26	94	49	180
N. Central	28	37	85	61	211	26	29	82	*79	216
West	69	39	208	141	457	62	35	204	149	450
Total Texas	163	138	618	397	1,316	154	114	603	417	1,288
New Mexico	4	1	30	16	51	3	3	27	18	51
GRAND TOTAL	225	404	1,475	611	2,715	213	329	1,453	919	2,614

Cost-Accounting for Oil Production

Recording Material and Labor Charges

Article Two

By Lester C. Uren

Professor of Petroleum Engineering, University of California, Berkeley, Calif.

In the first article of this series, it was shown that the items of primary expense entering into the cost of producing petroleum, were labor, materials, land or property and miscellaneous other items of expense that may not be classified under either land, labor or materials. Of these primary expense items, it was stated that labor is usually the most important single item of expense, while materials rank second in order of magnitude.

In this, the second of a series of articles outlining methods of cost-accounting for oil production, the methods employed in recording and distributing primary labor and material charges are to be briefly described.

IN A broad view, personnel employed in an oil-producing enterprise, may be paid in either of three ways: (1) according to the time occupied; (2) according to the amount of work accomplished; or, (3) according to the value of the product sold or profit on operations. Payment according to the time occupied is the usual method, but the second method is exemplified by the so-called piece-rate, bonus and contract systems: methods that are used to but a limited extent in the oil industry. The third method is employed but rarely in the oil-producing industry and then only indirectly, as in the so-called profit-sharing plans, where a bonus proportionate to the company's profits is periodically distributed to the employees. Since the second and third methods are seldom used, we shall here be concerned only with the first method, in which labor is paid on a monthly, weekly, hourly or per diem basis.

Since the amount of time worked is the basis for payment, the first requisite in recording labor charges, is a suitable system of time-keeping. The time records in an organization of any size are generally entrusted to an official called a "time-keeper," whose duty it is to represent the company in its relationships with its employees in determining the amount of wages periodically due them. In addition to this function, the time-keeper is called upon in many organizations to prepare labor segregation records showing the classification and cost of labor employed in different phases of the work, and the labor cost of operating the various departments. On the basis of this information, as compiled by the time-keeper, the primary expense items entering into the cost records are determined.

When an organization is a small one, or when it is made up of a number of small groups of workers, the primary time record may be maintained by requiring the time-keeper to periodically visit the different working places and check off the employees as he finds them at work, on a list kept in appropriate form. An alternative plan entrusts the primary duty of time-keeping to group foremen, who are required to periodically submit their records to the time-keeper for posting into the office records. This plan is an appropriate one for use in cases where the workers are widely scattered or are stationed at points remote from the field office, so that it would be difficult for the time-keeper to personally visit all of the working places at frequent intervals.

Where workers are concentrated in one place, as in the headquarters camp of an oil-producing company, they may be required to report at the time-keeper's office on going to and leaving work. In this case, a time-clock may be employed to mechanically record the time at which each individual reports on or off duty, or a check system may be adopted in which each employee is provided with a metal tag or check, stamped with his number. This he hangs on a correspondingly numbered hook or peg on a large board at the time-keeper's office as he goes on duty, and removes it when coming off duty, or vice versa according to the practice established. This latter plan is one which adapts itself well to large organizations with a considerable labor "turn-over," or to companies operating in foreign countries and employing native labor where it may be difficult for the time-keeper to know each individual by name.

Still another method of time-keeping is the so-called "ticket system," in which each employee is given a book of tickets, one for each day of the month. Each ticket has printed on it the employee's number, or one assigned to him for the month. For every day worked, the foreman in charge of a group of workers collects one ticket from each, the tickets are placed in an envelope and sent to the time-keeper. The tickets are large enough to accommodate a few lines of writing in which the individual foremen in charge

TRUCK-DRIVER'S DAILY REPORT

No. 14,562

Name: R. Mathews Truck No. 3 Date: Oct. 1, 1928.

Time From	Time To	Material Moved	From	To	Mileage	Dr. Account
A.M. 7	10	10" Casing	Store House	Well 17-4	4	Well 17-4
10	11	12" Under-reamer	Well 14-6	Well 15-5	1	Well 15-5
11	12	Idle				Truck Gen. Exp.
P.M. 1	4	Stores	R. R. Station	Store House	16	Stores
4	5	Oil Gauger's Samples	Tank Farm	Laboratory	3	Oil Gauging

Total Hours Worked—8 Gasoline Consumption—3-gals.

Total Hours Idle—1 Total Mileage—24.

Fig. 1—Typical employee's individual daily report

DAILY TIME RECORD

No. 151 ~ 175 — Month of September, 1928.

No.	Name	Occupation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total Days	Rate Per Day	Amount Due	Cr
151	F. Long	Driller	/	/	/	/	/	x	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		29	$ 8.50	$ 246.50	
152	R. Andrews	"	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		30	"	255.00	
153	G. Albers	"	x	x	x	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		27	"	229.50	
154	J. Stoll	"	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/		29	"	246.50	
174	S. Patrick	Mechanic	/	x	/	/	/	/	/	x	/	/	/	/	/	/	/	x	/	/	/	/	/	/	x	/	/	/	/	/	/	x		26	7.50	195.00	
175	C. Johnson	"	/	x	/	/	/	/	/	x	/	/	/	/	/	/	½	x	/	/	/	/	/	/	x	/	/	/	/	/	/	x		25½	7.50	191.25	
		Totals																																		526.50	

Fig. 2— Typical time record

may note the nature of the work upon which the employee has been engaged during the day. A primary record such as this may thus serve as the basis for both the time records and labor classification records.

In the shops and other phases of the work conducted on a "job order" system, the individual employee may be required to fill out a daily report form on which is recorded the number of hours devoted to each job on which he has worked during the day. Figure 1 presents a typical employee's individual report form.

Time-keeping Records

Three different records are maintained by the time-keeper. The first of these is the office time record, which displays the record of attendance at his work, day by day, for each individual employee. Figure 2 presents a typical time-book form. The number of the employee appears in the first column, opposite his name in the second column and his occupation or classification in the third column. Then to the right, are a series of narrow vertical columns, one for each day of the week, month or other period over which the record extends. A figure 1 or a fraction, is posted each day in the appropriate column opposite each individual's name, to indicate a day or a proportional part of a day worked; or, if he has been absent from his work during the day, a cross (x) is entered. In the third column from the right of the record, the total number of days worked during the period is entered. This amount is then multiplied by the wage paid—entered in the next to the last column—to determine the total amount due, which is entered in the last column.

Once each month, the time-keeper prepares a copy of the time book, with the exception of the detailed daily record, which is sent to the paymaster. A loose-leaf form is conveniently used for this purpose. On the basis of this record, the paymaster makes up the pay roll, and after deducting any amounts which may be due the company for board, lodging, rental, provident fund or other purposes, from the gross amount due each individual employee, prepares the pay checks.

The Labor Classification Record, prepared once each month by the time-keeper from the time records, shows the number of workers employed in each classification and the total number of days worked and total labor cost for each class during the month. Figure 3 shows a typical labor segregation record form. This record is furnished the field manager or superintendent and the various department heads, and is useful in making comparisons as between different periods, and of studying variation in employment rates for different classes of employees. It is also useful in indicating to the management the gross amount due employees on the succeeding pay day.

The Departmental Labor Segregation Records, also prepared by the time-keeper once each month, display the labor charges to be assessed individual departments and different phases of the work for which separate accounts and cost records are maintained. This record may conveniently be carried out in sufficient detail to indicate the cost of labor charges to be assessed against each department; and in the shops and other departments where a job-order system is used, the labor cost of each job should be computed. Where the labor charges within a department are to be spread over a number of different jobs or different phases of the work, it will also be necessary to distinguish between direct and indirect labor charges, the latter to be later spread by the cost-keeper on some equitable basis, over the different jobs or divisions of the work. Copies of the Departmental Labor Segregation Records will be prepared on loose-leaf forms in sufficient number to send copies to the company's headquarters office, the

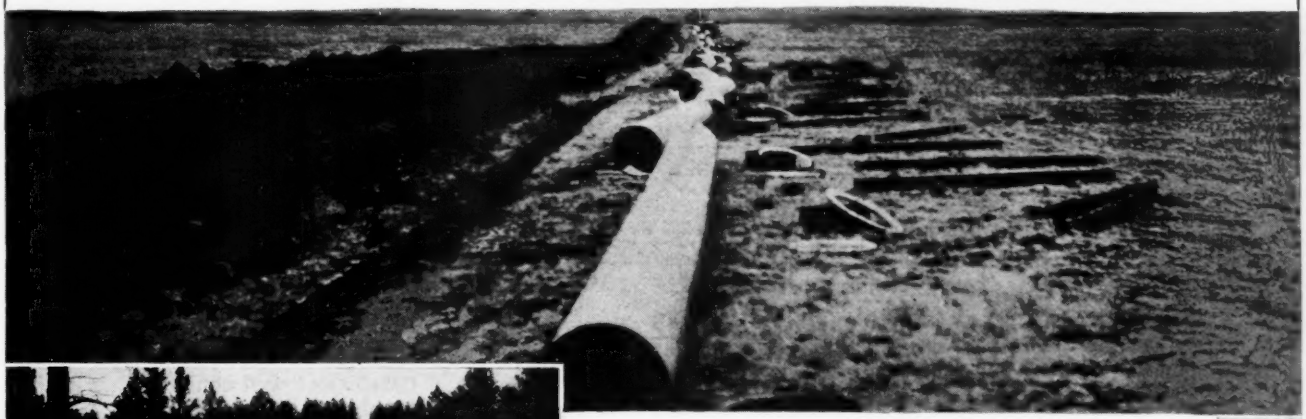
GENERAL LABOR SEGREGATION RECORD

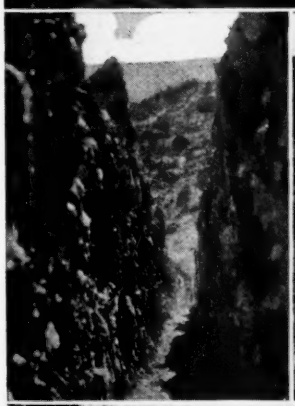
Month of September, 1928.

Classification:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total Days	Rate per Day	Total Amt. Due	Cr
Drillers																																	$ 8.50		
Derrick Men																																	6.50		
Rotary Helpers																																	5.75		
Acetylene Welders																																	6.50		
Welder's Helpers																																	5.50		
Totals																																			

Fig. 3—Typical form for labor segregation record

Amarillo-Denver Gas Line





An engineering conquest with "NATIONAL" PIPE

THROUGH the application of modern engineering principles and the attainment of a high degree of manufacturing efficiency, the transportation of America's natural resources is constantly being extended. Hundreds of great pipe lines are now carrying oil and gas to practically every section of the country. Across plains, up and down mountains and steep hillsides, through deep canyons and across streams, pipe lines are being laid with much the same regularity and plan as our great railway systems. Communities heretofore unserved are now economically and efficiently supplied with these useful and convenient products.

But such projects carry a heavy responsibility. Investments running into millions of dollars must be safeguarded with materials that give every promise of long and faithful service—there can be no compromise with quality.

Here, another engineering conquest has been completed, another link in the network of great pipe lines which spread across the continent. The main line of this latest project contains over 300 miles of 20 and 22-inch "NATIONAL" Pipe—The Recognized Standard for Oil and Gas Line Service.

NATIONAL TUBE COMPANY
Pittsburgh, Pennsylvania

JOB ORDER Order No. _____

To _____ Department. Date: _____

Description of Work: _____

Work to be completed by: _____ For _____ Department:
Date _____ _____, Foreman.

	Check	
Working drawing herewith	____	Approved: _____
Bill of Materials herewith	____	
Additional verbal instructions from: _____	____	_____ Field Superintendent

Work assigned to: _____ Hours Occupied: _____
Date begun: _____ Refer to Daily Labor Repts Nos. _____
Date completed: _____ Refer to Stores Req. Nos. _____

Fig. 5—Typical job-order form

field superintendent, the cost-keeper, the accountant and each individual department head. On the basis of this record, journal and ledger entries are made by the accountant to accomplish distribution of the labor charges over the various accounts, and labor charges are posted by the cost-keeper to the "cost of work" and other departmental cost records. Figure 4 gives a suitable form for the Departmental Labor Segregation Record.

Supplemental Labor Reports

It is important to have a check on the time-keeper's records, so that if an error is made, it will be disclosed. This can usually be accomplished by requiring department heads, gang foremen or others occupying executive positions in immediate charge of the work of others, to submit weekly or monthly reports covering the work of their organizations. These reports not only provide a chronologic record of the work accomplished during the period, but also give statistical data relative to the number of workers of different classifications employed day by day. Such reports are sent to the field superintendent and cost keeper, and the latter should check the total number of days worked by each classification in each department, against the corresponding figures given in the time-keeper's labor classification and departmental labor segregation records.

The degree to which it will be necessary or advisable to distribute labor charges within departments, will depend upon the nature of the work done. We must distinguish between departments performing work of routine character in which the employees continually perform the same kind of work, or are engaged in conducting some one phase of the process of production, and departments in which the work is of varying character. In the former case, detailed monthly labor segregations are unnecessary, for once determined, the allocation of charges against different parts of the process remains constant. This character of service is performed by the attendants of a gas compressor plant or a steam power plant or a dehydrating plant. Where the character of service and the nature of the work varies from day to day, it will be desirable to introduce the "job order" system, in which each piece of work is undertaken only under the authority of a specific "job order," defining the work to be accomplished. Such work as is conducted in the shops, in maintenance of wells and well equipment, in laying pipe lines, building rigs—in fact, all other than routine operations—can be satisfactorily controlled under the job order system.

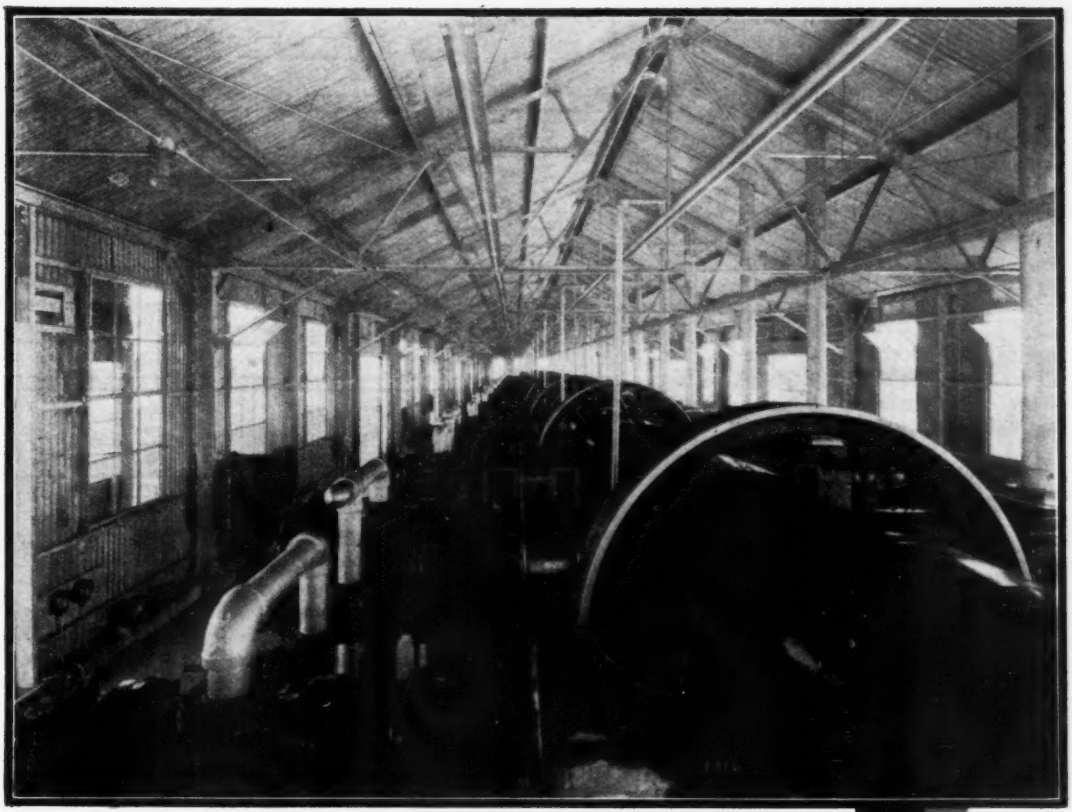
Under this plan, when a piece of work is necessary, any department executive authorized to do so, may fill out a job order form describing the work to be done, its purpose, the time within which it must be completed, and giving any other pertinent data or instructions that he may wish to convey. In many cases, such an order will be accompanied by a working drawing, bill of materials and other necessary detailed specifications. It may be provided that in addition to the signature of the department executive requesting the work, the job order shall receive the signature of

MONTHLY DEPARTMENTAL LABOR SEGREGATION RECORD

Producing Department — Month of September, 1928.

Occupations	No. Man-Days	Wage Rate	Total Cost	Well No.	Distributed Charge	√	Hours: Pumping	Idle	Pulling & Cleaning	Engine & Rig Repairs	Re-Drilling
Well Pullers Gang Boss	60.	6.75	405.00	1	44.64		720.				
Well Pullers & Cleaners	120.	5.50	660.00	2	58.10		708.	4	8		
Pumpers	270.	5.00	1350.00	3	82.48		682.	12	16	10	
Engine Repair Men	28.	6.25	175.00	4	53.90		412.	288	8	12	
Engine Repair Helpers	26.	5.00	130.00	5	84.72		642.	48	16	14	
Roustabout Gang Boss	30.	6.00	180.00	6	50.34		526.	182	6	6	
Roustabouts	58.	5.00	290.00	7	64.80		702.	4	8	6	
Foreman, Prod. Dept.			300.00								
				29	65.50		694.	12	10	4	
Department General Expense					1561.50						
			3490.00		3490.00						

Fig. 4—Typical departmental labor segregation record



The Carter Oil Company's Grisso No. 1 Air Plant, operating 12—165 H. P. Bessemer Type Ten Compressors equipped with 13½"x6¼"x20" Bessemer V. H. Cylinders

Why do Bessemers dominate in Compressor service?

BECAUSE of their unfailing high running time—Bessemers invariably deliver 99%+ running time.

Because they are specifically engineered for Oil Industry compressor service—Bessemers are unsurpassed in both compressor and mechanical efficiency.

Because they require less servicing—Bessemers literally run themselves, and require the very minimum of parts adjustment or replacement.

Because their economy is something tangible—for years Bessemers have been demonstrating in thousands of installations that their operating cost per hour of service is appreciably lower.

Because Bessemers have every sound, advanced feature known to engineering science—and are built with strength plus to deliver service plus.

These are just a partial list of the reasons why more compressor plants are powered with Bessemers than any other make.

BESSEMER ENGINE COMPANY
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BESSEMER

the field superintendent before being sent to the particular service department, personnel of which is to do the work. The executive in charge of any service department, on receiving such an order, issues the necessary instructions to the individuals within his organization whom he selects to do the work. Priority in job orders must receive careful consideration, so that work urgently needed will not have to await the completion of less important work. When such a system is used, each job order form is given a serial number at the time it is approved and all related records specifying allocations of labor and material charges against the various jobs, are correspondingly numbered. In Figure 5 a typical job order form is reproduced.

STORES REQUISITION.

Department _____ Dept. Req. No. ____ Date _____

Quantity	Description	Unit Price	Charge	✓

Approved: _____ Department Foreman

Delivered by: _____

Received by: _____

Fig. 7—Typical stores requisition form

Recording and Distributing Material Charges

Being an element of production cost second only in importance to labor, means must be provided for accurately determining the cost of supplies, materials and equipment used in all phases of the work. The supply records must be kept in sufficient detail to display not only the cost of materials consumed in the different departments, but also the value of supplies entering into various plant units and individual construction and repair jobs.

Responsibility for the preparation of the primary supply and equipment records is delegated to a "store keeper," who is also charged with the responsibility of receiving all materials and equipment as they are delivered in the field, of storing them until such time as they are placed in service, and of regulating their issuance and distribution to the consuming departments. The ordering and purchasing of equipment and supplies is ordinarily placed in charge of a "purchasing agent" or purchasing department, which department theoretically has full responsibility in these matters, as well as control of the purchased material during transit to the field and up to the time that it is delivered to the field warehouse and turned over to the storekeeper. With the duties and activities of the purchasing department, we are not particularly concerned at this time, except in so far as the cost of supporting the purchasing department enters into the gross cost of the materials as delivered to the consuming departments.

Elements of Supply and Equipment Cost

The cost of equipment and supplies to the consuming departments is not merely the invoice cost, for to this amount must be added the transportation charges and the cost of purchasing and warehouse expense. The latter item includes labor cost of handling, storing and issuing materials, fire protection and insurance while in storage, taxes and depreciation on warehouses and warehouse equipment and shrinkage in inventory values due to obsolescence, deterioration and breakage while in storage, theft and other losses. These miscellaneous items of equipment and supply cost can be rather accurately computed and in the aggregate represent an appreciable addition to the invoice cost.

Stock Price Records

The storekeeper maintains a price record book or card file, which displays the current unit price to be charged consuming departments for all supply items regularly carried in stock; and reference is had to the price records in posting supply charges on the departmental material requisitions. The price records may conveniently be a part of what is customarily called a "permanent inventory" record. This consists of a record, commonly maintained in card index form, which displays at all times, the quantity and value of the stock of each commodity on hand, as well as the unit cost. Figure 6 presents a typical permanent inventory record card form. The current unit price to be charged against consumers' requisitions, is the average cost per unit, displayed in the tenth column. When a new consignment of a particular commodity is received, the new current average cost is determined by averaging the cost of the residual old stock with that of the new.

Issuance of Supplies

Materials are not issued from the warehouse without proper authorization by the head of a department or other responsible official. Such authorization customarily takes the form of a "requisition," which specifies the quantity, grade and size of the material desired, together with the use to which it is to be put. The department, account or job to be charged with the cost of the material is also specified. Figure 7 represents a typical requisition form.

On delivering materials or equipment specified on a departmental

STORES RECORD CARD

2¼" Plunger Pump Balls and Seats (Nickel-Chrome) June 1, 1928, to _____

Date	Mater'ls. Rec'd Rept. No.	Units Rec'd	Invoice Cost	Transp. Cost	Ware House Expense	Total Cost	Balance on hand		Average Cost per Unit	Charged Out		
							Units	Cost		Req. No.	Units	Value
5-1-28	------	------	------	------	Bro't.	Fwd.	16	$50.56	$3.16	------	------	------
6-17-28	------	------	------	------	------	------	12	37.92	3.16	1632	4	$12.64
7-2-28	416	24	$78.00	$2.16	$0.64	$80.80	36	118.72	3.30	------	------	------
------	------	------	Balance Carried Forward				------	------	------	------	------	------

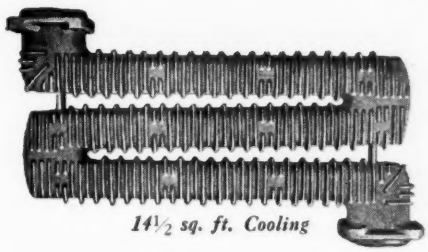
Fig. 6—Typical permanent inventory stock record card

STERLING
OIL SECTIONS

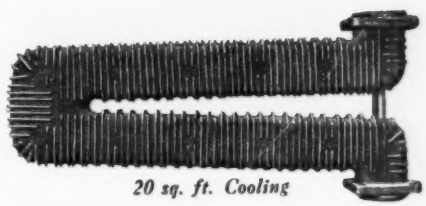
14 sq. ft. Condensing

STERLING OIL CONDENSING AND COOLING SECTIONS

are successfully performing a surprising variety of duties in the oil industry.



14½ sq. ft. Cooling



20 sq. ft. Cooling

Have you thought of all the following uses?

IN REFINERIES:

Low pressure vapor condensing; low pressure cracking plants; knock back coils; heat exchangers; tank heaters; rundown coils.

IN GASOLINE PLANTS:

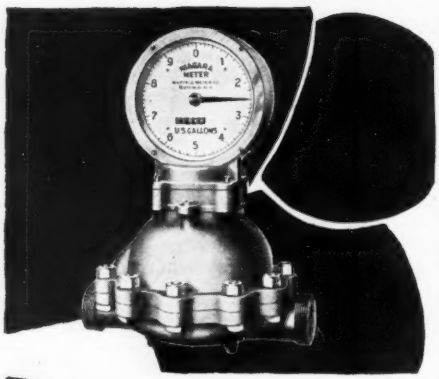
Oil coolers; pre coolers; after coolers; vapor condensers; jacket water coolers.

We will gladly furnish any detailed information you desire.

AMERICAN RADIATOR COMPANY

Industrial Division No. O-1211

40 West 40th Street	816 South Michigan Avenue	Factory:	935 Kennedy Building	1214 Quinby Building
NEW YORK	CHICAGO	Springfield, Ill.	TULSA	LOS ANGELES



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A Niagara Meter will repay its cost in the extra profits made from the sale of gasoline or oil that would be unaccounted for without a meter.

Send for the Niagara Meter Catalog "N". We'll be glad to mail it without cost or obligation to you. Please mention in your letter whether you are producer, refiner, wholesaler or retailer.

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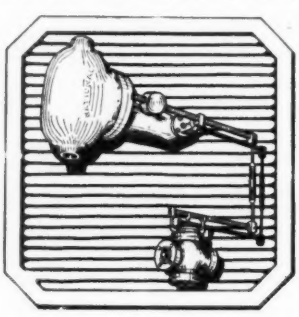
2889 Main St., Buffalo, N. Y.

Niagara Oil Meters
"The Constant Guardians of Liquid Profits"

"NATIONAL"
Ball Bearing Liquid Level Controller



An accurate, positive level control, designed for use wherever it is necessary either to maintain liquid in a container at a definite level, or to change the inflow or outflow in response to changes in the liquid level. For use on tanks, absorption towers, absorption plant receivers—for draining hot condensate from closed feed water heaters, draining mineral seal oil from absorber towers and stills. Send for special bulletin.

NATURAL GAS EQUIPMENT COMPANY (INCORPORATED)

Petroleum Securities Building Los Angeles, California

NATURAL GAS EQUIPMENT CO.

Atco Building, Tulsa, Oklahoma

SUPPLY AND EQUIPMENT COST-DISTRIBUTION RECORD

Department:—Machine Shop———Month of September, 1928.

Materials	Total Cost	Job Order No.	Material Cost	✓
Iron and Steel	$87.84	801	$14.12	
Bolts and Nuts	16.48	802	.86	
Rivets and Washers	9.32	803	3.25	
Valves and pipe-fittings	124.96	804	29.31	
Lubricating Oils	12.16	805	18.43	
		835	1.13	
	Shop General Expense		$54.40	
Totals	$836.19		$836.19.	

Fig. 8—Typical supply and equipment cost distribution record

requisition, the storekeeper enters on it the current unit cost, as determined by reference to his price records, and the total charge to be made, determined by multiplying the unit cost by the number of units furnished. Completed requisitions are filed, and periodically—usually once each month—the various departmental charges are posted from them into a Supply and Equipment Cost-Distribution Record. This record summarizes all of the requisition charges and displays the total amounts to be charged against the various departments and jobs that have been in progress during the period. Figure 8 displays a typical form for this record. One copy of it is sent to the accountant and another to the cost-keeper. The former makes appropriate entries under the main ledger accounts to accord with the total departmental supply charges, while the cost keeper enters the supply costs on the departmental cost records and "cost of work" record cards.

Another method of issuing supplies that is particularly appropriate in construction work and special "job" work, is what is known as the "budget" system. When this method is employed, the storekeeper is furnished with a complete "bill of materials" or list of supply items, that will be needed for a particular job, and is given in advance, a requisition for all the material so specified. All of the material is not at once withdrawn from the warehouse however, but is set apart from general warehouse stock and held until called for. Delivery may be taken in installments as required in the work, merely on verbal instructions from those in charge and without additional requisitions. Should the needs of the job have been underestimated, however, an additional bill of materials and requisition must be furnished. The budget system is advantageous when the work in hand permits of its use, in that it simplifies the records, eliminating many small requisitions, and the storekeeper is advised in advance of actual needs so that he may anticipate any abnormal withdrawals from his stock.

If more supplies are issued for a particular repair or construction job than are found to be needed, the unconsumed balance should be returned to the warehouse for reissuance for some other purpose. This requires the issuance of a "credit memorandum," which operates to reduce by its face value, the amount originally charged the department returning the material; and the store-house account must be debited with a corresponding amount.

Tool Rentals

Most large oil producing companies must maintain a considerable stock of special tools, which are perhaps, used only at irregular intervals. Many different types of fishing tools, occasionally necessary in drilling operations, for example, may be purchased and held in readiness for occasional use. The total investment in tools and movable equipment of this character often represents an important item of expense and their cost must be gradually written off on some equitable basis against the work in which they are used.

This may be accomplished either by charging the total original cost of the equipment as it is purchased, against the Drilling and Development Department or Production Department and writing off its cost periodically through depreciation as an item of general expense in the operation of these departments; or by allowing their value to reside within the stores account, requiring the departments wishing to make use of such tools at any time, to pay a rental charge for them. Under the latter plan, the rates to be charged must be such as will amortize the cost of such special equipment during its lifetime or during the productive life of the property. When this latter plan is followed, the tools are properly placed in charge of the storekeeper, who issues them on the authority of a tool rental requisition. When any tool, so issued, has served its immediate purpose, it is returned to the tool rack at the warehouse. Periodically, the storekeeper posts charges for tool rental to the Supply and Equipment Cost-Distribution Record, the cost of the equipment being thus eventually

paid by the departments having use of such tools and equipment.

Summary

This, the second of a series of articles reviewing principles and methods of cost-accounting for oil production, outlines a system of recording and distributing primary labor and material charges. It is shown that the cost records must depend for their primary information on cost and distribution of labor charges, on the time-keeper, on reports from department foremen, and in some cases on reports prepared by individual workers. Primary information on cost and distribution of supplies, materials and tools is obtained from the store-keeper and reports prepared by him based on departmental requisitions. In a later article of this series, the manner in which these primary labor and material charges enter into the departmental and other cost records, will be described.

The third article of this series, reviewing principles of plant depreciation and property depletion as applied in cost-accounting for oil production, will appear in an early issue of NATIONAL PETROLEUM NEWS.

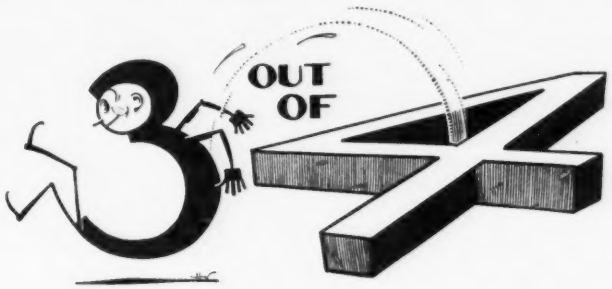
Youngstown Sheet & Tube Gets Order

CLEVELAND, Nov. 1.—It is stated in press dispatches that the Youngstown Sheet & Tube Co., of Youngstown, O., has been awarded the contract for about 450 miles of 10-inch pipe that will go into the proposed pipe line to be laid by the Shell Pipe Line Co. from the McCamey, Tex., field to Houston. This line will furnish crude to the 30,000-barrel refinery the Roxana Petroleum Corp. will build on the Houston ship channel. This project was announced in the Oct. 31 issue of NATIONAL PETROLEUM NEWS, page 28.

Hughes Tool Co., Houston, Tex., has developed a core bit for use in rotary drilling. Two types of cutter heads make possible the coring of formations ranging from the hardest to the softest. The simplicity of operation, high percentage core recovery, long life and trouble-free operation are claimed to be chief features of the core bit. The two types of cutter heads are interchangeable, making it necessary to have only one bit body on a drilling well.

Robert A. Young, electrical engineer, is now a member of the Oil Well Supply Co. staff. Mr. Young has come to California from Pittsburgh to work with George A. Frazier in developing certain electrical equipment for use by the oil operators of California. His experience has carried him through the Mid-Continent oil fields and the Bradford oil field of Pennsylvania.

Billions of Bubbles



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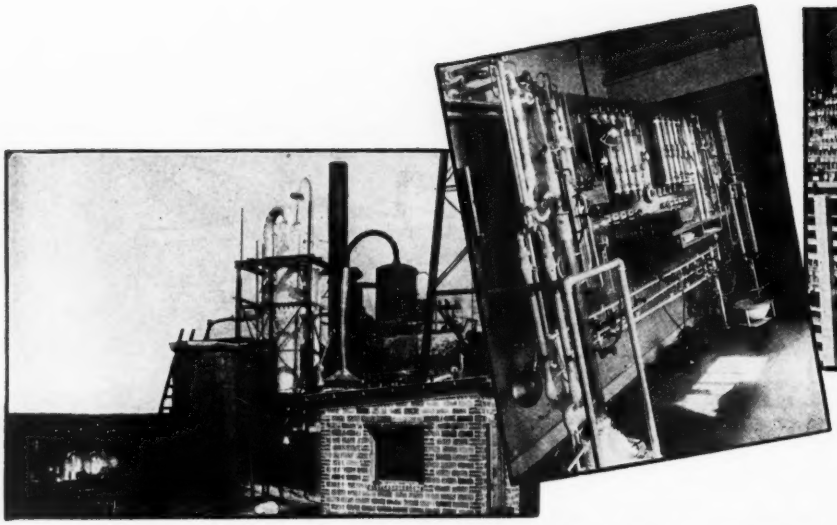
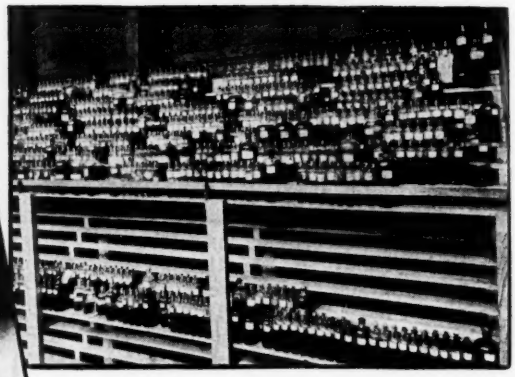
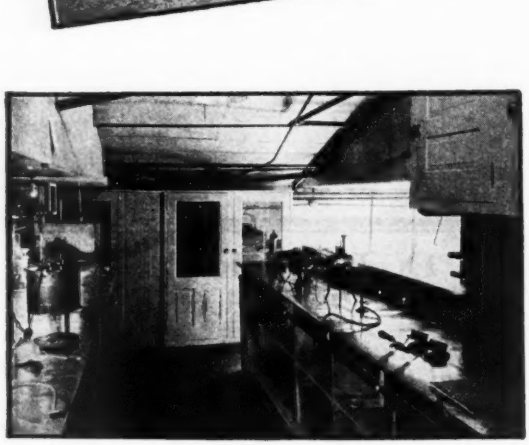




RESEARCH AND EXPERIMENTAL WORK FACILITIES



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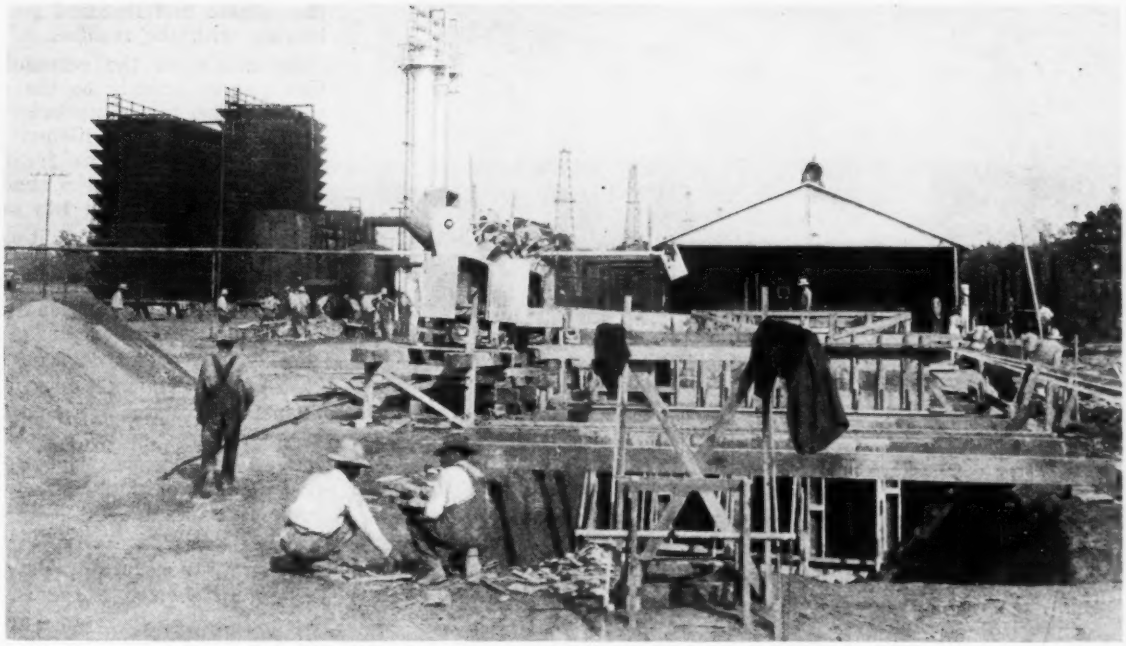


Pouring footings for new engines which will double the capacity of the Independent Oil & Gas Co.'s Little River gasoline plant. Fractionating columns and cooling towers in left background. N. P. N. Staff

Compression Plant Meets Gas Lift Needs And Makes Gasoline at Low Cost

By J. C. Chatfield
N. P. N. STAFF WRITER

TULSA, Nov. 1

AFTER more than 6 years of near oblivion, the compression plant for the manufacture of natural gasoline appears to be gaining prominence again. A number of very large compression plants have been erected within the past year and some manufacturers are of the opinion that many more will be built in the future.

For operation on very lean gas the compression plant is not yet considered satisfactory but gas from the light oil fields such as the Seminole district is being processed efficiently and economically.

The demand of producers for high pressure residue gas for gas lift operations is one of the chief factors influencing the return to the compression plant. Another is the fact that with modern equipment it is possible to regulate the quality of the compression plant product without excessive weathering losses.

An interesting example of the new type compression plant is that recently built by the Independent Oil & Gas Co. in the South Little River field of the greater Seminole district. First built as a 10-unit plant, the installation now is being doubled in size so that it can handle 30,000,000 cubic feet of gas per day.

Making Our Gears Mesh

DESIRE to practice true conservation of oil resources which we all share with the officers of the federal government, is very largely a matter of hooking together in their proper relation the various steps in the producing, refining and marketing branches of the oil industry.

This article shows a development in dovetailing gas lift practice, one of the recent means of conserving oil, into the business of manufacturing natural gasoline so that both objects are attained at high efficiency and low cost.

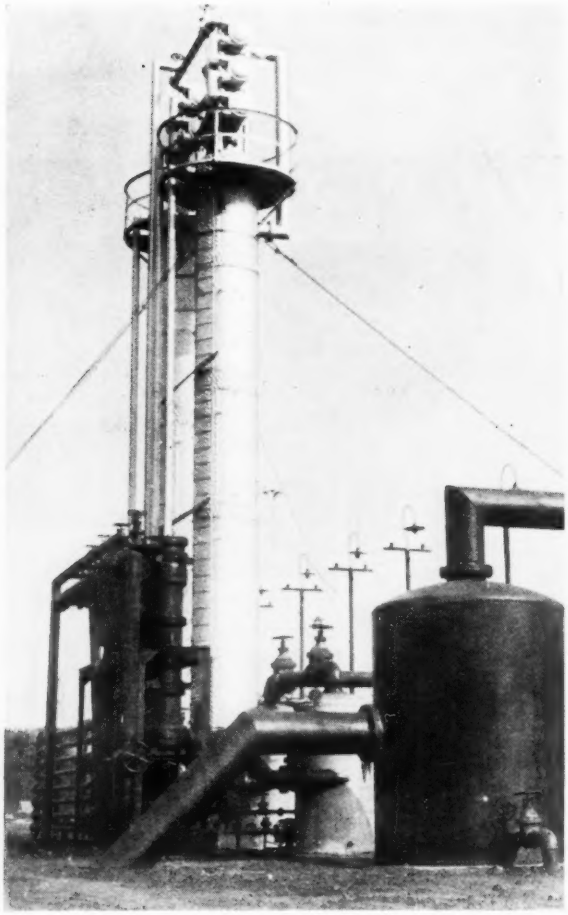
The Independent plant was built and is being operated primarily as a gas lift plant to furnish high pressure gas to the producing department of the company and to the leases of adjoining operators who are furnishing gas to the plant. Natural gasoline produced at the plant actually is a by-product of the high pressure gas and for that reason extraction efficiency may at times be stressed less than gas lift efficiency.

While this is true, the fact remains that the company has built a plant which strips down the gas to a very low gasoline content in the residue. It produces a large volume of stable gasoline meeting the desirable double A specifications and requires only sweetening before shipment.

One entire manufacturing step has been eliminated at the Independent plant to produce the stable gasoline direct from the high stage condensers. In this respect the plant differs from many of the gasoline-gas lift plants whch produce a very wild gasoline from the high stage condensers and subsequently rectify or rerun the gasoline to meet the recovery specifications of blenders.

By eliminating the rerunning or rectifying, the Independent saves the expense of vaporizing the gasoline made, eliminating the wild portions by fractionation and condensing the valuable fractions a second time. As each handling of natural gasoline involves some loss, the elimination of weathering as a separate step allows an additional saving.

At the Independent plant, gas from



Fractionating columns at Independent gas-lift, gasoline plant which serve the purposes of condensing, fractionating and accumulating high stage compression gasoline and cooling high pressure gas for distribution to producing properties. N. P. N. Staff Photo.

the high stage compressor cylinders passes directly to a piece of equipment which combines the functions of high stage condenser and gas cooler, accumulator tank and weathering column. The column as used at the plant was designed by engineers of the Tulsa Boiler & Machinery Co. from ideas developed by R. R. Dean, head of the natural gasoline department of the Independent.

The manufacturing cycle was worked out by Mr. Dean contemplating the use of three pieces of equipment.

The manufacturer of the column combined the three elements into a single piece of equipment consisting of a 40-inch by 43-foot tower.

The Independent column consists of a 19-tray bubble tower with the usual steam coil at the base. The top section, separated from the bubble section by a solid plate, serves as an accumulator catching condensate from the three condensers arranged in series which surmount the tower.

As operated, the high stage gas enters the column over the third bubble plate from the bottom and rises through the tower, being scrubbed of its gasoline content as it bubbles through the liquid on each tray. From the top bubble section the gas is withdrawn to the three condenser coils surmounting the tower and passes with the condensate to the accumulator section of the tower.

The down-flow line enters the accumulator section below a baffle arrangement calculated to keep any of the condensate from leaving the tower with the residue. This condensate flows through a conventional down-flow pipe to the top tray of the bubble section, heavier fractions finally making their way to the base of the column and liquefied gases finally leaving with the residue.

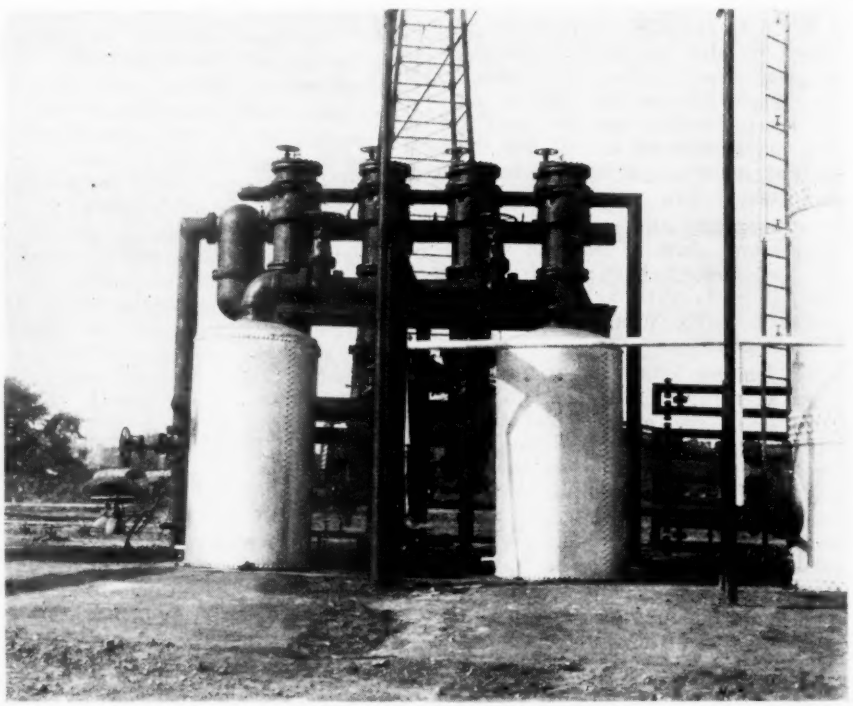
Residue from the accumulator section passes directly to the producing wells under the compressor pressure and is used for oil lifting. Finished gasoline is withdrawn from a point in the column below the steam coil, is cooled, sweetened and run to storage.

Normal operating conditions at the plant contemplate a pressure of 250 pounds per square inch in the rectifying column or fractional condenser as it might be called, and a temperature of about 225 degrees F. at the base of the column, achieved by using 31 pounds of steam pressure. Under such conditions, tests of residue leaving the column have shown a gasoline content of 0.03 gallons per 1000 cubic feet and less.

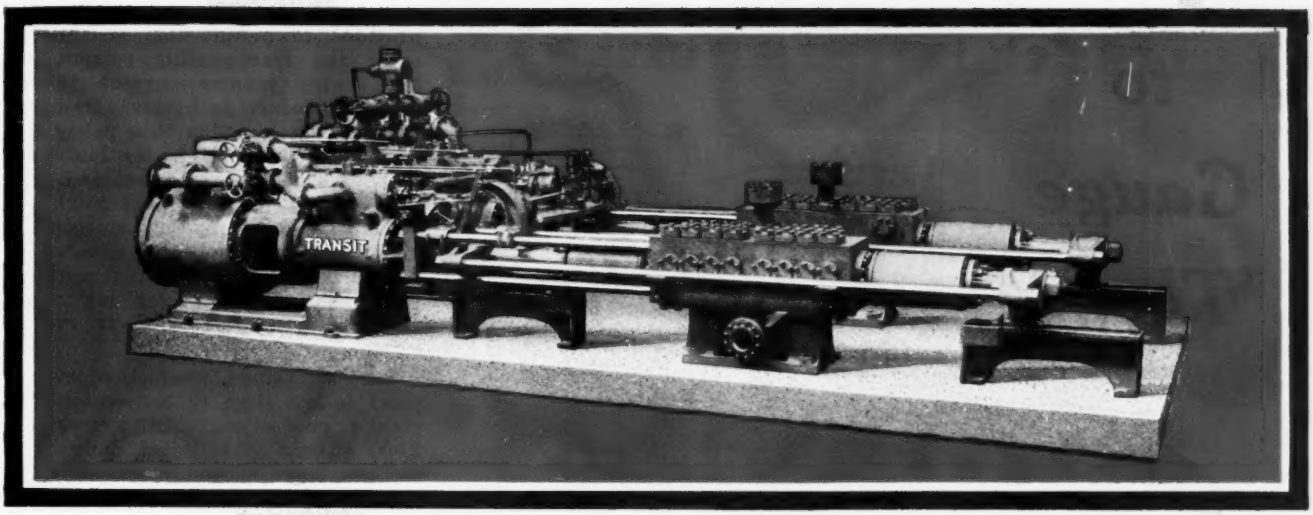
Since the plant is primarily a gas lift plant, the operators have not applied any device on the residue line to maintain a constant pressure in the condensing column. The operating pressure is the pressure to which the producing wells draw down the system.

Constant specifications in the finished product are maintained by varying the temperature at the base of the column through regulation of steam pressures. Less efficiency is obtained from the tower when the wells pull the pressure below the optimum condition of 250 pounds per square inch.

Steam required for the operation of the column is quite small. Averages have shown that only 5 boiler horsepower is utilized. This constitutes the only operating expense of



Low stage accumulators and closed condenser system for low stage gas at Independent plant. N. P. N. Staff Photo



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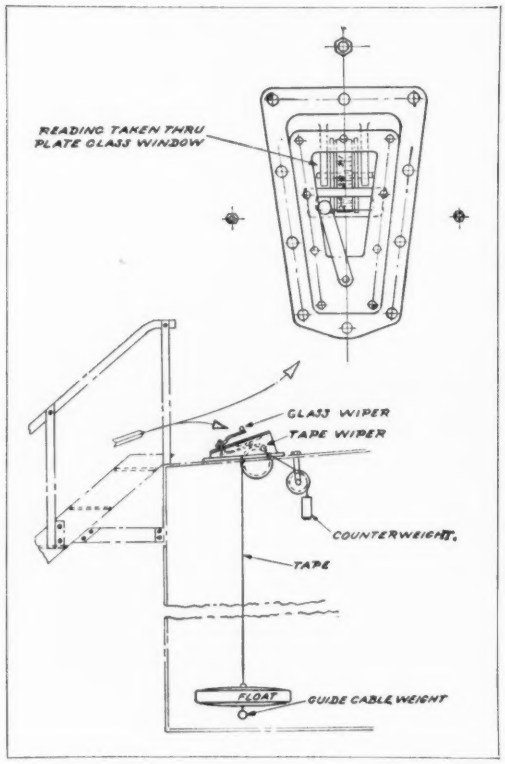

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the unit aside from supervision of temperature conditions.

Low stage gas is passed through four Braun closed condensers and the gasoline collected in two accumulator tanks separate from the high stage system. Connections have been provided to permit this gasoline to enter the fractionating column, being heated counter current to the finished product withdrawn from the column. In practise this policy has not been followed since the low stage make is stable as condensed and color of the final plant product might be endangered by using low stage gasoline which might be contaminated by lubricating oil from the compressor cylinders. Any off-color low stage gasoline is steam stilled to specification.

The low stage production of the plant is less than 10 per cent of the plant's production. An average of 2,000 gallons is collected daily from the low stage accumulators while the high stage process yields an average of 22,000 gallons per day and has yielded as high as 30,000 gallons when gas was being taken from open flow wells, before recirculation was started.

Mr. Dean has found in operating this plant that the gas-oil ratio on the producing properties directly affects the yield of his plant. His studies have shown that a small volume of gas used in lifting oil from a well will pick up as much gasoline as a large volume. If only 500 cubic feet of gas are used per barrel of oil lifted, the gasoline content of the recycle gas will be four times as great as if 2,000 cubic feet of gas were used to do the same piece of work.

At present the Independent plant has 10 Superior 180 horsepower gas engine units direct connected to Ingersoll Rand compressors. Ten more of these units are being added. The plant also has four 1,000-pound compressor units for use in kicking off wells. Gas from these units does not pass through the fractionating system before going to the field.

Two fractionating columns now handle the high stage gas, being arranged in parallel. A third column will be erected when the addition to the compressor plant has been completed.

From a gas lift standpoint the Independent plant has created much interest among Oklahoma producers since it exemplifies a plan for distributing compressed gas from one central plant over a large area to a considerable number of producing wells. The usual plan in the Seminole district has been to build small plants on individual leases for well flowing purposes.

The Independent plant supplies 26 wells with high pressure gas. The wells are located on seven properties embracing 300 acres and are scat-

tered within a radius of 1¼ miles of the compressor plant. High pressure gas is delivered to individual properties and there distributed to individual wells from lease control stations.

From the plant a 6-inch main line has been laid to the Reiter-Foster lease a half mile north. On this lease a control station provides gas for each of the wells and distributes the remainder through a 4-inch line to the Independent lease in the NE NE of Sec. 15-7-6, still further north.

To the northeast a 6-inch line leads to a distributing station built on a Gypsy lease for convenience, where it is broken into two 4-inch streams for Independent leases in the SE SE of Sec. 13-7-6 and the NW SE of Sec. 14-7-6. On each of these leases are individual control houses for distribution of gas to each well.

For proper study in the maintenance of production, the Independent keeps a record on each lease of every individual well showing the volume of gas utilized, pressure of the gas in pounds per square inch, number of barrels of oil produced and the depth of the tubing. This information is charted separately for information as to when the tubing should be lowered, gas-oil ratio changed or pressure raised or lowered.

Changes made in any of these factors can be studied on the chart and valuable information obtained.

The company has come to the conclusion that operations can be carried on with less fluctuation in operating conditions by using the central plant idea than by following the usual custom of building individual compressor stations. The shutting down of one or two wells out of 26 has far less influence on the system than would be the case on a single lease where one well at a time might be off production for some reason.

Leeds & Northrup Co., 4901 Stenton Ave., Philadelphia, Pa., has off the press a booklet devoted to the Students' Kelvin bridge, an instrument for teaching the Kelvin bridge method for measuring low electrical resistance accurately. This method has been used for many years in research and standardizing laboratories for checking and comparing standards of low resistance and for measuring the resistances of current carrying shunts. More recently it has been adopted for determining the electrical conductivity and temperature coefficient of wire and rod, and for measuring the resistance of windings of large generators, motors and transformers and other conductors of low resistance.

W. L. Stewart Jr. of the Union Oil Co., in one of the company planes, left Los Angeles, Oct. 21 for San Antonio, Texas to attend the wedding of H. B. Du Pont.

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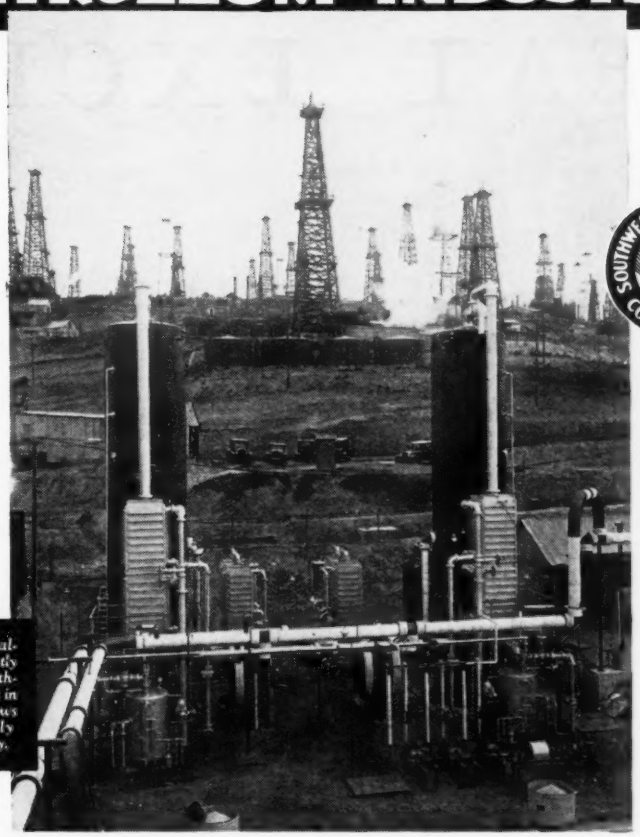

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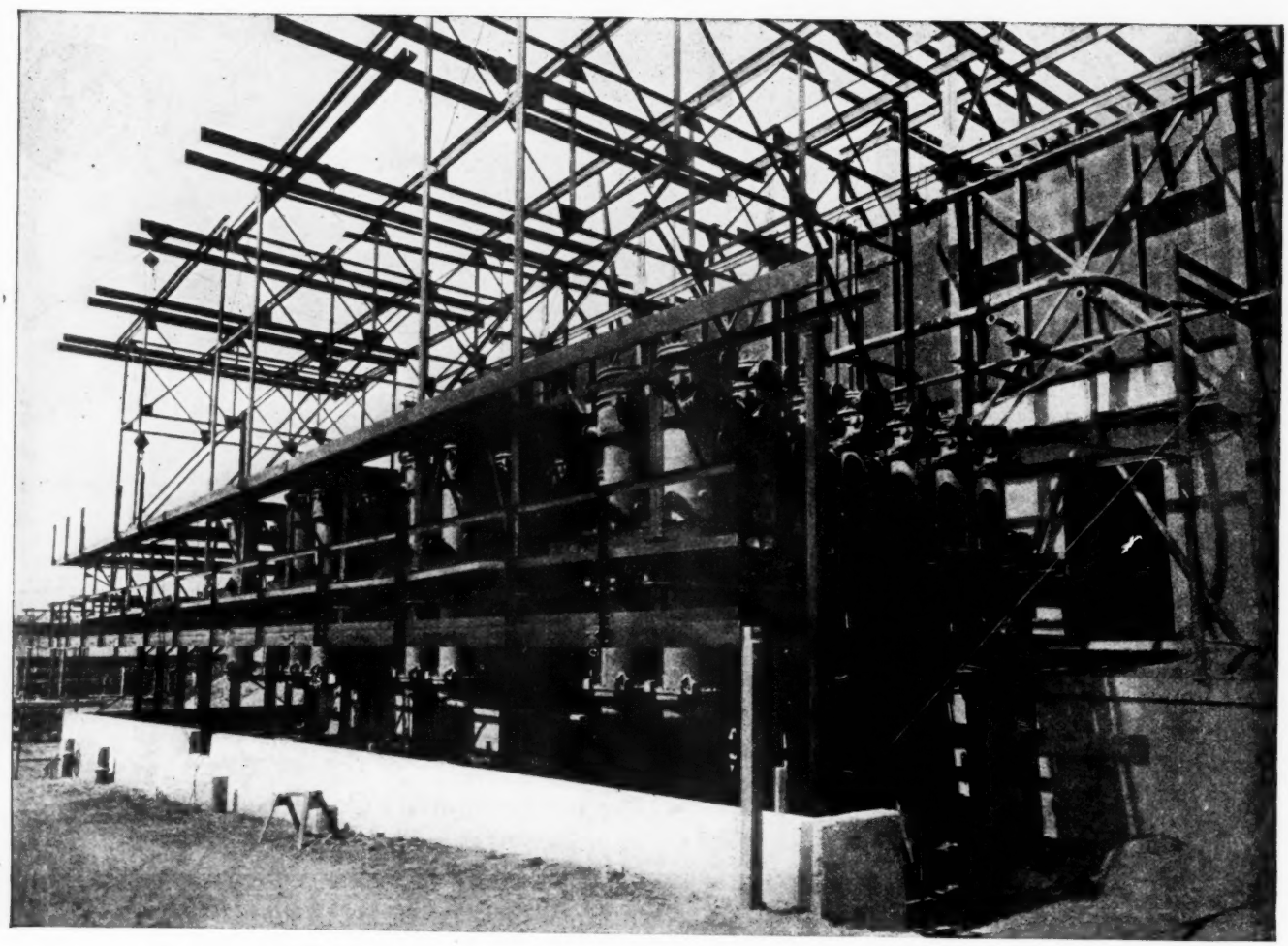

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Our Industry—A Page of Facts and Personalities

By Paul Wagner

National Petroleum News

Committees have been appointed by B. E. Thompson of the Gulf Production Co., president of the Fort Worth Geological Society, to make arrangements for the fourteenth annual meeting of the American Association of Petroleum Geologists. The meeting will be held March 21-23 at Fort Worth.

The general committee includes J. Elmer Thomas of Fenner & Beane; Ford Bradish, consultant; J. Earl Brown, Tidal Oil Co. of Texas; David Donoghue, director, Texas Pacific Coal & Oil Co.; H. B. Fuqua, Gulf Production Co.; J. H. Jenkins, vice president, Tidal Oil Co. of Texas; R. A. Liddle, Pure Oil Co.; B. E. Thompson, Gulf Production Co.; C. P. Watson, president, Federal Royalties Co.

Finance committee—Messrs. Jenkins and Thomas; Ben C. Belt, Gulf Production Co.; C. E. Hyde, Marland Production Co.

Program committee—Mr. Liddle; Paul L. Applin, Cosden & Co., Inc.; M. G. Cheney, Coleman, Texas; F. B. Plummer, Vacuum Oil Co.; A. R. Dennison and R. H. Fash.

Entertainment committee—Mr. Brown; Paul M. Butermore; V. C. Perini and R. R. Thompson.

Publicity committee—Mr. Bradish; Allen Bruyere, The Texas Co.; N. B. Livingston and R. J. Metcalf.

Reception committee—Mr. Fuqua; C. S. Miller and Roy A. Reynolds, consultant.

Arrangements committee—Mr. Thompson; C. E. Yager, Texas Pacific Coal & Oil Co.; and Claude Dally.

* * *

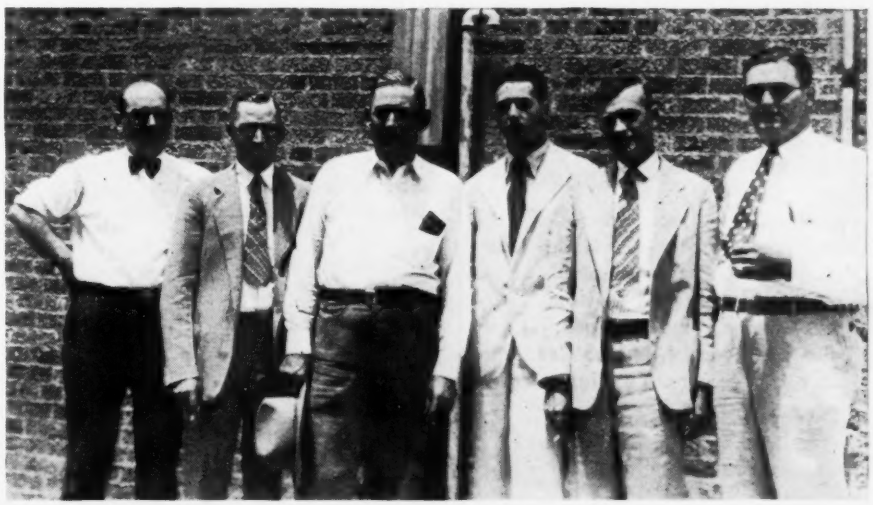
Everett Carpenter is now engaged in special helium research work for the Kentucky Hydrogen & Oxygen Co., of Louisville. He was formerly chief geologist of the Empire Gas & Fuel Co., at Bartlesville.

* * *

B. A. Hardy, formerly of Shreveport, has moved to Houston to become executive vice president of the Moody-Seagraves gas interests, with general headquarters in the Esperson building. These interests include the Dixie Gulf Gas Co., of which Mr. Hardy had been vice president and general manager.

* * *

George W. Sawtelle, vice president and general manager of the Kirby Petroleum Co., has moved back to Houston from San Angelo. Officially his headquarters have always been at Houston, but for more than two years he has been spending all his time adjacent to the west Texas field territory.



The accompanying snapshot recently taken at Abilene, on a west Texas motoring trip, shows a group made up principally of Marland Production Co. employees. The single exception is J. R. B. Moore, at the left, who is assistant manager of the land department, Vacuum Oil Co., Houston. From left to right, others are E. R. ("Deac") Parsons, chief scout, Marland Production Co., Ponca City; John H. Asbury, Abilene district scout; W. S. Noble, land department, Abilene; Joe W. Elsbury, general scout, Fort Worth; Paul Hunter, Abilene district geologist

* * *

Samuel Byrne Brown, Jr., is now associated with W. Armstrong Price in consulting geological work, with offices in the Esperson building, Houston. Mr. Brown was formerly a geologist and engineer for The Philadelphia Co., in Appalachian territory. He is a son of the late Samuel Byrne Brown, who for years headed the department of geology at the University of West Virginia.

* * *

Andrew Milek, chief geologist of the Sinclair Mexican Companies at Tampico, has been conducting a survey of the Sota la Marina district in northern Tamaulipas.

* * *

Charles Vertner, formerly of Tampico, now headquarters in the Edificio Banco Boston, Buenos Aires, where he is identified with Argentine affairs of the Standard Oil Co. of New Jersey.

* * *

Ben H. Nash is again in the Shreveport district looking after developments for the Houston Oil Co. of Texas. Fifteen years ago, he represented the Higgins Oil & Fuel Co., a subsidiary, in that territory. Later he was stationed in southwest Texas until being sent back to Louisiana.

* * *

Walter W. Larch is now in charge of geological work in Kansas and central north Oklahoma for the Dixie Oil Co., Inc., direct producing subsidiary of the Standard Oil Co. of Indiana in the southwest. He succeeded Charles E. Straub of Wichita, who resigned. H. G. Schneider has been made chief geologist of the Dixie with headquarters in the Slattery building at Shreveport.

* * *

Louis H. Freedman, at various times connected with the Gulf and Marland companies, has returned to Fort Worth from Mexico, where he spent several months on behalf of the Snowden & McSweeney interests.

* * *

C. E. Emmons has been transferred from the New York technical division offices of The Texas Co. to Los Angeles.

* * *

J. L. Lavallee is now assistant manager of the railway sales division of The Texas Co., with New York headquarters. Charles Ervin, also at New York, is the new assistant manager of the railway traffic division.

* * *

That employees of the Standard Oil Co. of California want to improve themselves is shown conclusively by the fact there have been more than 30,000 enrollments in the company's educational courses.

The mental training, the habit of study and of analysis all tend to broaden the employee's scope, according to R. H. Ivory, personnel depart-

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362—A very compact folio, having three pockets. Made from the best grade smooth black cowhide. Stiffened bottom reinforced with metal studs. Case contains six 4-oz. bottles and five grease jars. Two inner cases may be carried.

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ment manager at San Francisco. In addition, the employee adds materially to a useful knowledge of the company and its functions.

It is explained that the courses are divided into two groups—those which are for more or less fundamental training, such as penmanship, business English, commercial arithmetic, shop arithmetic and principles of modern business; and those which stand out a bit more importantly because they have to do with information not easily available elsewhere.

A company products course, for instance, deals with the nature and salient features of the company's products. Courses covering steam power plant, machinery and pump operation are designed to help the company's men and are built around its operating equipment.

* * *

District offices of the Midsun Oil Corp., of New York, have been opened at Abilene, Texas, in charge of R. W. Kennedy, formerly of Brownwood. H. L. Hubbell is in charge of geological work at Abilene and J. A. Leidecker will conduct field operations. Tests of the Midsun in central Texas are being drilled in Coleman, Brown and Shackleford counties. Others are planned in Jones county.

* * *

Oren E. Randolph is now central Texas division superintendent of the Prairie Oil & Gas Co., with Eastland headquarters. He succeeded J. F. Champion, who recently resigned. Mr. Randolph formerly was stationed at Seminole, Okla. All Texas operations of the Prairie with the exception of those in the Panhandle territory are handled through the Eastland office.

* * *

Sub-surface geological work of the Marland Production Co., in west Texas, is now in charge of A. H. Richards, formerly of Ponca City but more recently stationed at San Angelo. He succeeded C. D. Vertrees, who was transferred to other work in the Marland organization.

* * *

An unusual marriage took place at The Hague, Holland, some time ago, when Miss M. Blinkerdaal was wedded by proxy to L. J. Prinselaar, who works for "La Corona" Oil Co., at Chijol terminal, in the Tampico district of Mexico. The bans were published according to Dutch law three weeks before the wedding date. Then on the day of the ceremony a member of the bride's family accompanied her to the town hall and formally accepted the bridegroom's commitments as proxy. The religious ceremony was then read at a church. Mrs. Prinselaar will arrive at Tampico on the next trip of the S. S. Maasdam from Holland.

* * *

R. G. Bechtel is now in the Muskegon, Mich., territory for the Dixie Oil Co., Inc., direct producing subsidiary of the Standard Oil Co. of Indiana. He was formerly with the Midwest Refining Co., in the Rocky Mountain region. Mr. Bechtel succeeded W. W. Waldron, who resigned to look after individual affairs from Denver.

* * *

W. H. Hudnutt is again scouting Gulf Coastal Texas territory for the Rycade Oil Co., Houston. He left the Rycade in 1925, afterwards joining the scouting organizations, first of the Humphreys Corp., and later the Pure Oil Co.

* * *

L. A. Hancock now has charge of the Magnolia Pipeline Co.'s main line system south of Corsicana, Texas, making headquarters at Richards.

* * *

M. A. Tracey, head of the tax and insurance department of the Louisiana Oil Refining Corp., at Shreveport general offices, spent his vacation in Bella Vista, Arkansas.

* * *

F. R. Wadleigh is now consulting fuels engineer for the Consolidated Gas Co., at 130 E. Fifteenth street, New York City. He reserved time from his duties with the Consolidated to keep up general consulting work on fuels.

* * *

M. O. Boring, assistant superintendent of production for the Gulf Production Co., in west Texas territory, spent his vacation in the Davis mountains.

* * *

F. E. Chalk, chief engineer, and S. E. McCorqudale, land department, Gulf Refining Co. of Louisiana, Shreveport, have been spending part of their time in Mississippi checking geophysical surveys in the Rolling Fork area.

* * *

H. A. Hartshorn has been transferred to the Kansas producing district of the Pure Oil Co., replacing C. S. Berentz as superintendent. Mr. Berentz is now superintendent in the Nowata, Okla., district.

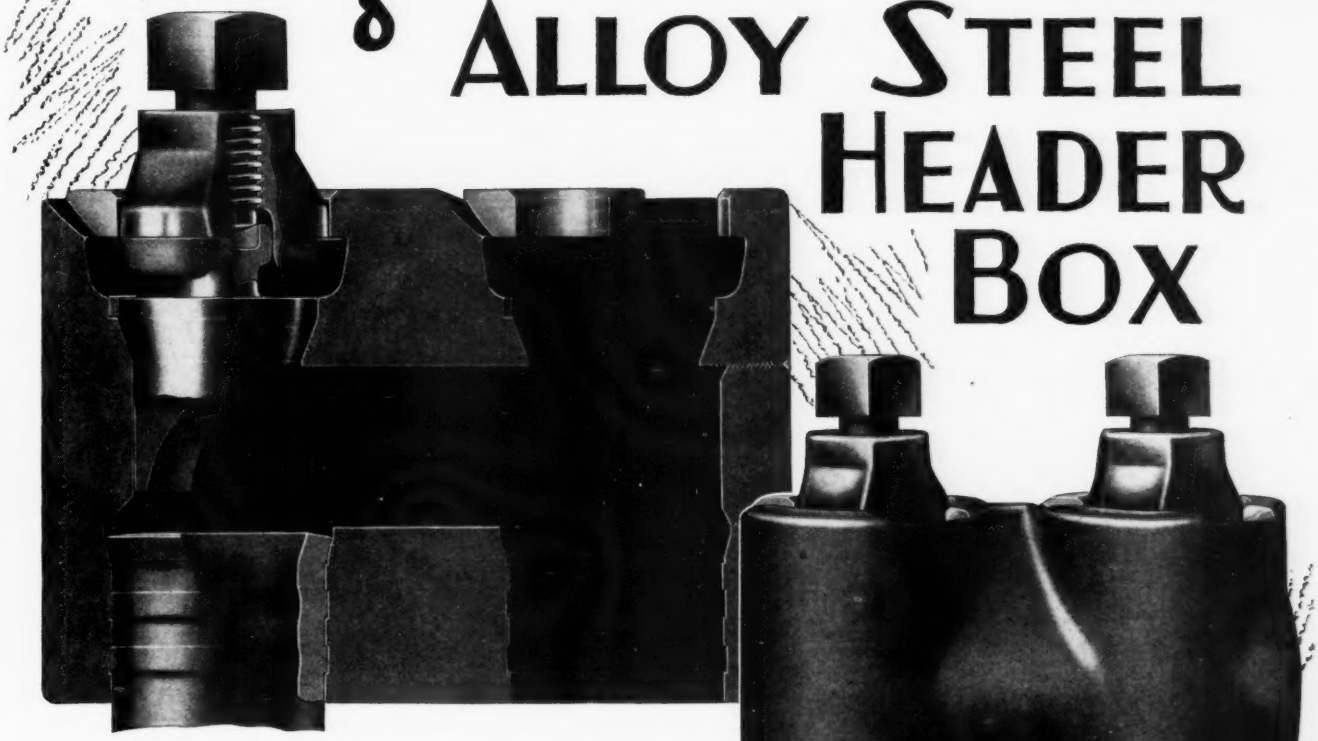
* * *

J. E. Richardson, formerly chief clerk at Luling in the Magnolia Petroleum Co.'s producing department, under Supt. C. G. Worthey, now occupies a similar position at Odessa, under Supt. R. T. German. O. T. Norvell, formerly Odessa chief clerk, was transferred to Luling.

* * *

Charles Doughty, foreman of the light oil treating plant at the Bossier City refinery of the Louisiana Oil Refining Corp., Shreveport, is the hero of a recent accident there. He applied artificial respiration for more than an hour before saving the life of Herbert Stringer, a negro tank cleaner, who had been overcome by fumes. He was a hockey player on the Queen Anne's team at Montreal, Canada.

Vogt DROP FORGED ALLOY STEEL HEADER BOX



THE Vogt Header Box is drop forged from special alloy steel to withstand corrosion and erosion in cracking units operating at extremely high pressures and temperatures.

Drop forging insures uniform strength and toughness impossible to secure in steel castings due to unequal cooling strains. Defects commonly found in steel castings such as blow holes, shrinkage cracks and spongy areas are entirely eliminated in Vogt Drop Forged Alloy Steel Header Boxes. Forgings of alloy steel also provide a dense wearing surface superior to the material in any other type of box.

Friction is reduced to a minimum by the one piece deflector plugs which are keyed in position and firmly seated with a crab and screw.

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Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

DR. E. R. LEDERER, vice president in charge of refining of the Texas Pacific Coal & Oil Co., writes in to point out that in publishing a paper presented by him before the Petroleum Section, American Safety Council in New York, we abridged it considerably without indicating that it was not complete.

Dr. Lederer says: "You cut my paper and left out the discussion of corrosion problems in the treating plant, the refrigerating plant and the acid restoring plant, which might create the impression among refinery men that I simply disregarded these problems which are very serious in these units."

The article, which was published on page 22 of the Oct. 3 issue, should have carried a note to the effect that part of it had been left out. No one who knows Dr. Lederer, however, would imagine that he neglected to discuss any phase of the refinery corrosion problem because he was ignorant of it.

* * *

THERE is an interesting article on filtering gasoline, written by Harley Cannon, published in the Southwestern Bulletin for October. This is a house organ put out quarterly by the Southwestern Engineering Corp. Gasoline made from most crude oils is not filtered but much of the gasoline made from California crudes must be so treated in order to rid it of a pinkish cast.

Contact filtration with fuller's earth is the method described by Mr. Cannon, the clay being removed from the gasoline after contacting by means of a filter press. As an example of the proportion of clay to liquid used, Mr. Cannon mentions one pound of clay to 250 pounds of oil.

* * *

THE Texas Co. has recently completed remodeling the refinery at Pryse, Ky., which it acquired from the Great Southern Refining Co. in 1926, according to information furnished by A. S. Alston, assistant to President R. C. Holmes of The Texas Co. Two refineries were taken over by The Texas Co. in this deal, the one at Pryse and another at Lexington. Pryse is about 55 miles from Lexington.

The Lexington refinery had been partly dismantled. The Pryse refinery had as primary equipment, a battery of six horizontal crude stills, two steam stills and two Dubbs cracking units. The Texas Co. completed the dismantling of the Lexington plant, moving such tankage and other equipment as was practical to the Pryse works.

The work done at the latter refinery is described as follows: "The crude stills and steam stills were shut down and the two Dubbs units dismantled and replaced by a specially designed unit of the Holmes-Manley cracking process in which the raw material charged is fresh crude oil. The resultant products are straight run gasoline, kerosene cracked gasoline and fuel oil.

"The special feature of this unit is that following the removal of the light straight run gasoline by means of heat exchange and a tower, the topped crude is processed through a tubular furnace and a tower system to take off a heavy straight run gasoline and a kerosene. From this point on the reduced crude enters a tubular heating furnace with stills and tower in accordance with the system of Holmes-Manley cracking process, embodying at the same time the usual tar stripping unit so arranged that the recycle stocks never leave the system but return to the tubular heating furnace while still hot.

"The unit will run about 65,000 barrels a month of Kentucky crude, producing about 72 per cent of gasoline of 400 end point. Gasoline and kerosene, finished except for chemical treatment, are taken directly off the towers. Bubble towers for the cracking plant are 8 feet in diameter and 53 feet high, weighing 110 tons each."

* * *

THIS is becoming more and more a liquid fuel age. That statement might even be narrowed to the point of calling it increasingly a light oil age. The tendency, as shown by the work of Bergius and Fischer in Germany, is more and more to reduce the old reliable fuel, coal to light oil, roughly speaking, to gasoline.

To be sure, use of powdered coal as industrial fuel is increasing and in many directions is displacing heavy fuel oil.

At the same time, use of relatively light oils for domestic heating is increasing and under the impetus of the American Oil Heating Institute and the American Petroleum Institute, with aggressive leadership, promises to increase much more rapidly during the next few years.

It appears that in the long run, the fuel oil that is diverted from the boiler houses of industry and the stoke holds of ships by powdered coal installations, is going to be cracked to yield gasoline of high value from the top of the fractionating tower and highly valuable furnace and diesel engine oils as side streams or reflux.

Coal in the meantime will continue to be a valuable fuel in powdered form and the rest of it will be broken down into coke for the metal industries, light oils for the automobile and the airplane, and the various chemicals which it yields today.

* * *

A REMARKABLE achievement in tube still construction and operation is chronicled in the October issue of Pure Oil News. The article, written by M. B. Chittick, states that the tube still unit was built complete in 83 days, or about one-third the time it usually takes for such a job.

The still was built at the Smith's Bluff, Tex., plant of the company to run West Texas crude.

Here are some of the facts about the achievement, according to Mr. Chittick.

The unit consists of a pipe still, evaporator, fractionating tower, atmospheric condenser and the necessary auxiliary equipment. The job was done entirely by Pure Oil men and the cost, according to the article, was about one-third less than the cost of similar units.

The still is now running 11,000 barrels a day of crude, 10 per cent more than it was designed to handle.

Welded return bends were used instead of cast steel.

Only 28 days were required to build to 125-foot stack for the unit.

Flexibility—the ability to crack gas oil, fuel oil, or topped crude with maximum profit—should be a primary requisite of any refiner in choosing a cracking process

The Dubbs Cracking Process with Flashing System is the only one known today which is capable of meeting every change in the price structure—either of charging stocks or gasoline or by-products—so as to insure for its operator the greatest dollar and cents return under any market condition

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Chicago, Illinois

Dubbs Cracking Process
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Employee Organized Athletic Club Builds Company Spirit at Big Refinery

By J. C. Chatfield
N. P. N. STAFF WRITER

TULSA, Nov. 2

ORGANIZED athletics in which every employee is encouraged to take part has been found by the Mid-Continent Petroleum Corp. to be a powerful factor in developing company spirit, keeping men fit for their jobs and alert when on duty. After a trial period of a year and a half the company has found its rate of employee turn-over to have decreased and has noted a solidarity of spirit which is carried into everyday jobs. Rivalry in athletics has fostered rivalry in doing work without carelessness and hence more safely.

The athletic activities of the company, originally fostered by F. B. Koontz, general superintendent of the Mid-Continent's big 40,000 barrel refinery in West Tulsa, are now controlled by the workers themselves. A voluntary organization has been formed which is known as the Mid-Continent Athletic Club. Every employee of the company is eligible and most of them belong.

In order that the finances of the club may be handled without a great waste of time on the part of the treasurer, the company has allowed dues to be collected by deductions from the pay checks. Slips authorizing the deductions are signed by the members and the dues collected automatically by G. F. Beatty, assistant chief clerk at the refinery, who is secretary and treasurer of the club.

Dues of the club are quite small but the organization has built up a surplus amounting to several thousand dollars. The association's funds are being built up with the idea of constructing a large gymnasium.

Left—G. L. Mitchell, vice president of the employees' athletic group. Center—J. W. Crays, president of the Mid-Continent Athletic Association. Right— G. F. Beatty, secretary and treasurer of the Athletic Association

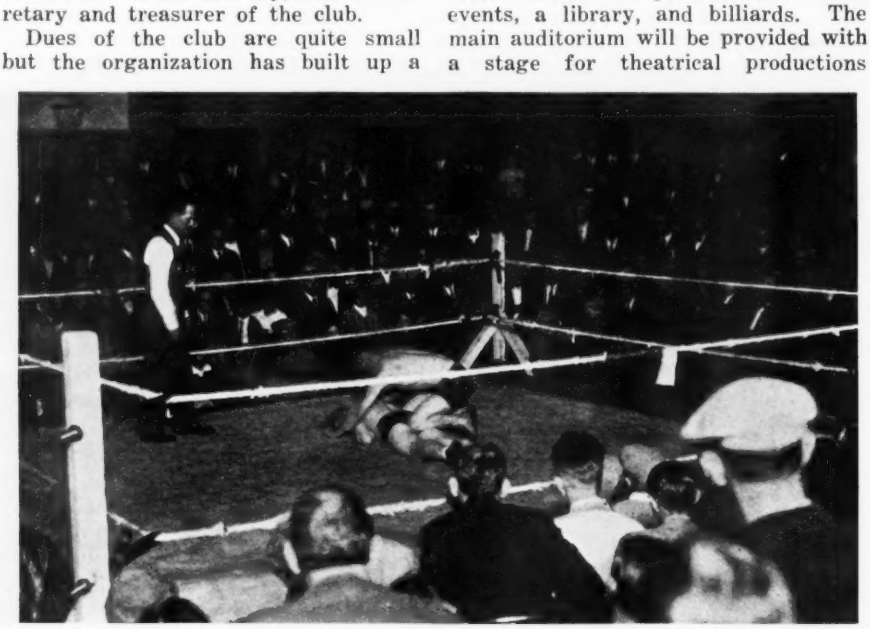
Officials of the company have decided to contribute to the gymnasium project. The officers of the association have been instructed to prepare plans for a complete club house. This building will house an auditorium to seat 2,500 persons, a swimming pool, volley ball, basket ball and hand ball courts, locker rooms, showers and the usual gymnasium equipment. Other rooms are to be provided for social events, a library, and billiards. The main auditorium will be provided with a stage for theatrical productions and will be used for dances.

The association was first organized in April, 1927. Since that time it has laid out a golf course on the refinery grounds, tennis courts, two baseball diamonds and has built an arena which seats 2,500 at wrestling and boxing shows.

At frequent intervals shows are staged in the arena which have filled all seats available. These shows have had the double purpose of entertainment for members and their families who are admitted free and has been a means of raising money for the gymnasium project.

Indoor baseball has been one of the most popular sports during the past season. Although termed indoor baseball the game actually has been played on open air diamonds. An inter-departmental league has been carrying on a regular schedule with 10 teams fighting for the company championship. In addition to the inter-departmental league schedule special matched games have been a source of fun. Executives pitted against laborers and stillmen against foremen have brought about a spirit of fellowship. Plant teams naturally enjoy beating the "Refinery Committee's" team of executives.

In the past season the "White Collar" boys of the general offices won the first half championship with a percentage of .867, just nosing out the No. 1 Mechanical department team by 5 percentage points. The light oil and pressure still teams tied for third place with .860. In the last half the white collars dropped out of



An exciting moment in the arena of the Mid-Continent Athletic Association on the grounds of the big West Tulsa Refinery

the first division and the Mechanical Department No. 1 team won with a percentage of .872 while the Pressure still, light oil and power house teams tied for second place with a percentage of .865. The general office team came back in the post season series to win the company championship for the year by taking two games out of three. Each member of the team was presented with a gold baseball watch charm.

The company had a team in the city league and won the championship of the first half. Company policy has been to give regular employees places on the team and not to hire outsiders temporarily on account of their baseball prowess. This policy has aided in the company spirit.

At a recent golf tournament on the company grounds 50 employees were entered for the cup. The golf course has three holes and is used almost as continuously as the horse shoe pitching grounds.

At the annual company picnic attended by 3,500 employees and the families the athletic association promoted 20 track and field events.

In the coming winter an interdepartmental basket ball league will be organized and a team entered in the city league. Semi-monthly boxing and wrestling shows will be continued and a dance program worked out.

J. W. "Jim" Crays, refinery transfer foreman, is president of the association this year. G. L. Mitchell, treater at the heavy oil agitators, is vice president, and G. F. Beatty, secretary and treasurer. Directors include the officers and W. C. Pollard, George Colton, Sam O'Brien, William Boyer, W. H. McLaughlin, W. C. Stegner and Dick Elkins. None of the directors is an officer of the company.

It is an interesting fact that shift men at the refinery come early and stay late on the grounds taking much of their recreation there. The plant is not looked on entirely as a grind to be reached at the latest possible moment and quitted as soon as possible. The fact that the association is an employee enterprise largely supported by the men has been one reason for the interest it has attracted. Had it been company promoted, directed by employees paid for that purpose, undoubtedly participation would have been limited.

Ingersoll-Rand Co., 11 Broadway, New York, has developed a new rivet buster, size 999, for cutting or busting off rivet heads up to ¾-inch and for knocking out the rivets. This pneumatic hammer is sufficiently light to be readily handled by one man, is easy to hold and fast cutting, according to the company. The cutting tools are securely held in the hammer and the design is such that light weight tools are used, so that very little of the power of the hammer is absorbed by them.

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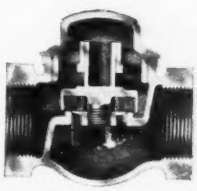

Sectional view, Fig. 117 screwed, Jenkins Standard Bronze Horizontal Check Valve.

Fig. 352 Screwed, Jenkins Standard Bronze Swing Check Valve.

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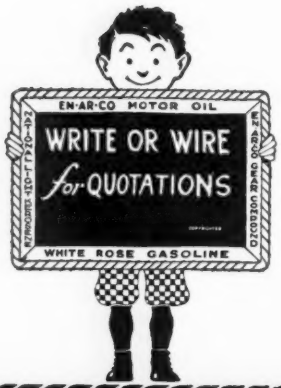

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INDEX TO ARTICLES

Selected Bibliography on Petroleum Technology

Editor's Note—The brief abstracts of current literature printed below are so arranged that they may be cut apart and mounted on 3" x 5" library indexing cards. The indexing numbers assigned bring the cards into logical sequence in the files. The "Decimal Index of Petroleum Technology" gives the key to the articles. This book is published exclusively by NATIONAL PETROLEUM NEWS as a service to its readers. Price $1.00. Abstracts started April 4, 1928.

Henry W. Ralph **749.**

"Accounting Methods for Refineries, Article 6"

National Petroleum News, Sept. 12, 1928, pp.63-67.

This article takes up methods of forecasting and controlling plant operations to sales needs. He says "It is essential that a definite procedure be set up to develop what changes in manufacturing policy are indicated by changes in price structure; and that the manufacturing schedule actually in effect be reviewed so that, consistent, with shipping commitments, and consistent with the future price developments that may be reasonably expected, the refinery will operate to maximum advantage."

S. W. Ferris **206.2**

"A Precision Pipet Viscometer"

Industrial and Engineering Chemistry, September, 1928, pp. 974-977.

"A pipet viscometer entirely of glass has been developed by which the Saybolt viscosity of an oil may be determined on small samples with an accuracy higher than ordinary results from the Saybolt instrument itself. It is inexpensive, simple to construct, easy to operate and no measurable change in the constants of the instrument has been found over a period of nearly two years.

"Calibration curves plotting Saybolt seconds versus pipet seconds have been found in every case to be straight lines which intersect when extended in a point on the Saybolt axis. By reason of this fact it is possible to calibrate a pipet with one oil of known viscosity.

"It has also been shown that a pipet may be calibrated to an accuracy of about 1 per cent by means of distilled water alone. To this limit the pipets may be used as definite reproducible standards for the Saybolt instrument.

"Attempts to increase the accuracy of the water calibration have so far been unsuccessful. If the slight discrepancies with water cannot be eliminated by a closer study of details of construction it is quite probable that some pure compound of somewhat higher viscosity may be used."

Germann, F. E. E., **530.1**

Cross-Index under 215.4

"Adsorption and Its Effect on Gas Production and Injection"

A paper read before the semi-annual meeting of the American Petroleum Institute, Division of Development and Production Engineering, Colorado Springs, June 15, 1928. Printed in Oil Field Engineering, July, 1928, pp. 23-25; Oil Age, July, 1928, p. 45; Petroleum World, July, 1928, p. 55; and Oil & Gas Journal, June 14, 1928, p. 81.

In earlier experimental work, occurrences have been noted which have led investigators to believe that natural gas is more soluble in oil when the latter is held within the pores of sand or sandstone than when the oil is stored in an open container. In this paper the author discusses certain fundamental physical laws which might provide an explanation for such a phenomenon. Gases may be adsorbed at oil and solid interfaces, with a resulting local increase in concentration, and where large surfaces are exposed to oil and gas—as is the case in a fine-grained oil sand—the adsorbed gas may operate to materially increase the quantity of gas apparently retained by the oil in solution. It is pointed out that this may be true or the reverse condition may be true in the case of a three-phase system of petroleum, natural gas and silica; that is, adsorption may be positive or negative. Little is known of the rate at which adsorption and diffusion of gas on and through liquids and solids may occur. Experimental research on this subject will be necessary before the mechanism of adsorption is fully understood. The subject is one of considerable practical importance in the repressuring of oil fields.

Tickell, F. G., and Wankowski, V. O., **444.1**

Cross-Index under 094.3

"Oil-Well Cements: The Effects of Pressure on Their Physical and Mechanical Properties"

Oil Field Engineering, September, 1928, pp. 16-19.

The properties of most importance in selecting a cement for use in excluding water from wells are: slow initial set; early hardening and strength; high density; high degree of fluidity when slurrified and impermeability when the hardening set is completed. The setting time is influenced by the composition and fineness of the cement; the percentage of water used; the percentage, kind and purity of accelerant used; period of mixing; composition of mixing water; temperature and contamination with mud fluid in the well.

The primary purpose of this paper is to present the results of a series of laboratory tests designed to determine the influence of pressure on initial set and compressive strength of cement. Graphs based on the results secured are given, showing that the compressive strength is considerably increased as pressure on the slurry is increased, while the setting time is slightly decreased by increasing pressure up to about 250 pounds per square inch, after which it seems not to be further influenced. Test pressures ranged from atmospheric to 1500 pounds per square inch. The results of tests made to determine the effects of aging and of calcium chloride accelerators on tensile strength, are also displayed. These tests indicate that high consistency of slurry is conducive to strength, and that for cement mixtures containing 60% of water, additions of calcium chloride up to 3.25% increase the early strength. No deleterious effects to either the early or ultimate strength are observed through the use of moderate quantities of accelerator. Useful figures on the density of various cement mixtures are also given. Two photographs of the apparatus used in the tests are reproduced.

Paul Truesdell 720.1

"How 25-Year Old Refinery Reduced Operating Cost on Crude Stills from $1.09 to 50 Cents per 100 Barrels" (This is an error. The heading should have read "per 100 gallons")

National Petroleum News, Sept. 19, 1928, pp.22-24.

Old shell stills were improved by installing internal flues in them, and were equipped with a bubble tower each. These bubble towers were made in the refinery from discarded stills. Operating schedule of the refinery, which runs on Mid-Continent crude, was arranged so 12 per cent of the gasoline is taken off with waste heat by running the crude through a series of heat exchangers counter current to vapors from the bubble towers. Acid treating was cut down through better fractionation with a saving of about $200 a day. Same equipment that formerly ran 7500 barrels of crude a day with relatively inexpensive remodelling is now running 12,000 barrels.

Smith, G. O., 980.

"Brakes for the Mineral Industry"

An address before the Mineral Law Section of the American Bar Association, at Seattle, Washington, July 24, 1928. Printed under various titles in Mining & Metallurgy, August, 1928, pp. 347-350; The Engineering & Mining Journal, July 28, 1928, pp. 127-130; Petroleum World, August, 1928, p. 66; and the Oil & Gas Journal, July 26, 1928, p. 38.

This paper is essentially a plea for support of the legal profession in securing legislative and congressional action designed to secure rationalization of production of minerals: that is, to provide legal limitations on the production of mineral products so that quantities available for the market shall not exceed the market demand. Several of the mineral industries, particularly the coal and oil industries, have within recent years been suffering from over production resulting in depression of market prices below economic levels. It is urged that present state and national anti-trust laws should be modified to permit of collective or cooperative limitation of production in the mineral industries, with proper safeguards when the market conditions and available supply of mineral products justify such action. Unrestricted competition in the production of certain minerals, such as petroleum, leads to wasteful use and inefficient methods of production. Both consumer and producer should be protected against market prices that are too low or too high. Brakes are needed for the mineral industry: a double set, which can be applied independently; one to be controlled by the industry for self-regulation, and the other to be controlled by a Government agency and called into use only when, for one reason or another, self-regulation fails.

D. W. Hovey 720.

"3000 Barrels a Day Refined on Space 125 by 140 Feet"

National Petroleum News, Sept. 19, 1928, pp.64-66.

"We have a cracking still which, through the addition of crude fractionating equipment, distills off all of the natural gasoline and kerosene contained in the crude and supplies 100 per cent charge to the cracking equipment, entirely from what would otherwise be waste heat from cracking.

"The flash tower or evaporator and the fractionating tower of the cracking unit were practically duplicated for the crude distillation, partially controlling the temperature of the cracking towers by pumping the crude oil through closed coils in cracking towers and discharging into first tower or flash tower of the crude oil fractionating equipment. Superheated exhaust steam is used in this tower and the desired cuts of gasoline, naphtha and kerosene are taken from the fractionating tower which strips the crude of all the natural gasoline, naphtha and kerosene, leaving the hot topped crude ready for charging to the cracking still."

Wilcox, E. H., 671.

"Tank Gaging and Gage Tables"

Oil Field Engineering, September, 1928, pp.49-56.

The Author, who is chief engineer for the Pan American Petroleum Co., has here published a valuable collection of tables showing the capacity of vertical cylindrical tanks for varying in circumferences and depths. The tables are based on the formula.

Q for height of 1" = 0.00118111275 C^2, where Q is the capacity of a section of the cylinder 1" high, expressed in barrels of 42-gallons, and C is the circumference of the tank in feet.

The tables given are an elaboration of a portion of a previous article by the same Author entitled "Theory and Methods of Tank Gaging", published in the April, 1928, number of Oil Field Engineering.

J. B. Northrop 726.

"Filter Operations Offer Big Chance for Saving"

National Petroleum News, Sept. 19, 1928, p.66.

Loss is largest single factor in cost of filtering, in writer's opinion. This includes vapor losses from naphtha used for diluting stock, oil left in the clay and burned up in roasting process, in reclaiming filter wash and bright stock from the centrifuge or cold settling department. A method of determining how efficiently the clay is being cleansed, is given as follows:

Place 6 or 8 ounces of the clay in an A.S.T.M. distillation flask, in turn connecting this up to your regular A.S.T.M. condenser, heating the clay gradually to distill off any naphtha or oil that may remain in it, basing this back on the number of tons of clay contained in the filter.

"I am sure that a poorly washed and steamed filter or those classified as dirty, giving off black smoke when being restored, will give you something to think about. Such a filter often runs from 20 to 40 gallons of oil per ton of clay or more than sufficient to offset any profits you might hope to have from that particular filter."

Cole, H. S., Jr. 772.31

Cross-Index under 624.2, 515.5, 537.1 and 516.75

"The Operation of Gas Compressors"

A paper read before the California Natural Gas Association, Printed in Petroleum World, May, 1928, pp. 102-103.

This paper presents useful operating data in the form of graphs which enable the engineer to determine loads and capacities for various sizes of gas compressors. The advantages of using indicator cards as a means of determining compressor efficiency, are emphasized, and a number of representative indicator cards are reproduced.

MOTORISTS continually pass your station. Up and down they go, hundreds of them, thousands of them—and every one a possible customer! . . . either today or tomorrow!

Appeal to these motorists with a Flexlume electric invitation, reminding them that they need gas or oil, and that you are ready to serve them. It will sell the extra gallonage that means added profit for you.

Some designs of electric signs for gas stations are better and more economical than others. Let us send you a color sketch of the type that experience has proven best. No obligation, of course. FLEXLUME CORPORATION, 1777 Military Road, Buffalo, N. Y.

Sales and Service Offices in Chief Cities of U. S. and Can. FLEXLUME *Factories also at Detroit, Los Angeles, Oakland & Toronto*

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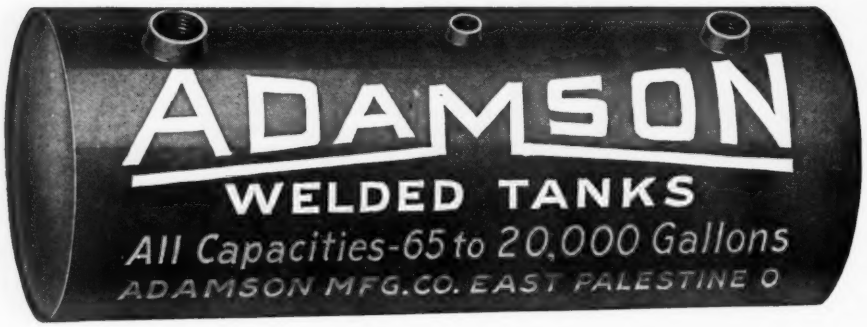


NOT THE FIRST COST—But The Upkeep

THAT'S the basis of comparison when you use machinery. That is the true basis on which to measure cost and efficiency in Air Equipment.

With a first cost that is lower than most other types, we have in the

DAYTON AIR COMPRESSORS

A lower upkeep cost than in any other we have heard about. The reason is that when we began to build the "Dayton" we threw out all parts that could cause trouble.

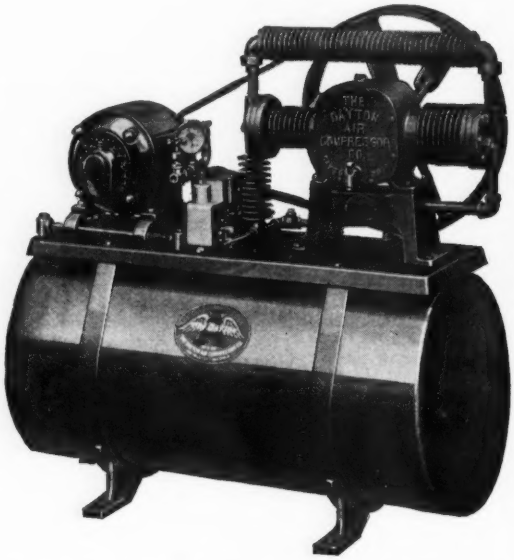
No Connecting Rods—

No Cotter Pins—

No Crosshead Pins—

No Bolts—

The Dayton Two-Stage types contain fewer parts than any other compressors built—and because of that fact, require less attention.



We build only Air Compressors and, since we could not build all of them, we built only the best of them.

Buy from specialists

Get a catalog

THE DAYTON AIR COMPRESSOR CO.

425 Valley St. **Dayton, Ohio**

I See By the Paper - -

Forbidden to Pledge Stock—Employes of the Standard Oil Co. of Indiana have been warned by the management that they will lose the right to participate in any future stock purchase plan if they put up their stock as collateral in stock market trading. This move, it is understood, is not designed so much to discourage stock market activity on the part of employes as to prevent the transfer to other hands of stock that employes were permitted to acquire at less than the market price.—N. Y. Times.

Improvement Foreseen—W. L. Mellon, president, Gulf Oil Corp., and G. W. Jones, president, Shell Co. of California, returning from Europe, expressed gratification with the turn in the world oil situation and said they expected further improvement.—N. Y. Times.

Farmers "Co-ops" in Illinois—The Illinois Farm Supply Co., parent company and buyer for most of the state's cooperative oil companies, reports 21 such units in the state at the end of August. They operate 125 trucks out of 39 bulk plants serving approximately 23,000 farmers. The buying company purchased 1057 cars of petroleum products in the year ending Aug. 31 and refunded $11,239.71 to its member companies.—Chicago Journal of Commerce.

Blackmer Appeals Huge Tax Levy—Harry M. Blackmer, former chairman of the Midwest Refining Co., Casper, has objected through his counsel to the government's action in taxing him $8,498,000. Mr. Blackmer is still in Paris, refusing to return to this country to testify in the Continental Trading Co. case.—N. Y. Times.

Rumanian State to Create Central Organization—Rumanian ministry of industry begins series of conferences with oil companies in effort to establish central organization for exploitation of existing pipe lines and creation of new means of rapid oil transportation in refining industry because of rapid expansion. Organization will have capitalization of $61,500,000, with 55 per cent to be contributed by the state and the remainder to be raised by Association of Petrol Manufacturers. After approval, construction of a line connecting producing center in district of Prahova to Black Sea will be started.—N. Y. Herald-Tribune.

The Exchange bank, in Tulsa, to the right, which moved into new and larger quarters last month

Sky Line of Oil Capitol Raised by Oil Capital

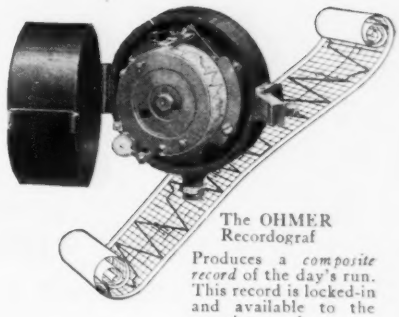
TULSA, Nov. 5.—The Exchange bank, one of the first financial institutions in the country to take the stand that production of petroleum was entitled to recognition in conservative banking circles, will formally open its new building here next month. The opening was held the evening of Oct. 20, the first day of the International Petroleum exposition, and oil men and bankers from all parts of the country will be guests.

The new building adjoins the former building, making the entire structure the largest building in Oklahoma and probably the southwest. It is 390 feet high, with 28 stories, and extends 300 feet between Third and Fourth streets on Boston avenue. It is 140 feet in width along Third street, and 90 feet in width along Fourth street. A portion of the new building will be occupied by the Exchange Trust Co. division of the Exchange Banks.

The bank was organized in 1910 and during the depression in the oil business that year took the then bold stand in favor of recognition by banking institutions of the business of producing petroleum. Several men prominently identified with the oil business have served as directors of the institution.

Timken Roller Bearing Co., Canton, O., will occupy spaces 232 and 233 at the New York Power Show at the Grand Central Palace. One of the features of the exhibit will be a mechanical display of Timken bearings in various industries.

As if you had ridden with the Driver!



The OHMER Recordograf
Produces a *composite record* of the day's run. This record is locked-in and available to the proprietor only.

A glance at the record produced by an OHMER Recordograf shows every movement the vehicle made—the speed, the stops, the time, the mileage. It gives you the information you need—just as if *you* had actually ridden with the driver in every one of your cars and trucks.

Get the Facts You Need

The OHMER Recordograf works *with* you. It helps you cut your operating costs; reduce fuel bills; eliminate idle time and other non-productive overhead. It enables you to put a stop to careless and excessive driving. It helps you route your trucks to the best advantage. It shows you how to operate your vehicles most economically.

Get the Benefit of OHMER Experience

For thirty years we've been specializing in transportation cost accounting. We'll be glad to send you simple and practical systems of keeping commercial vehicle accounts. Pin the coupon below to your letterhead and drop it in the mail. You don't obligate yourself at all. Get *all* the information about this money-saving device.

OHMER FARE REGISTER CO.

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OTHER OHMER PRODUCTS

The Odometer and Hub-Odometer, two famous OHMER mileage meters. Fare Registers and Cash Registers of every type and for every purpose. Ticket Printing and Non-Printing Taximeters. Four styles of Fare Boxes. Industrial Counters for many purposes.

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Send us further information about the operation and installation of the OHMER Recordograf.

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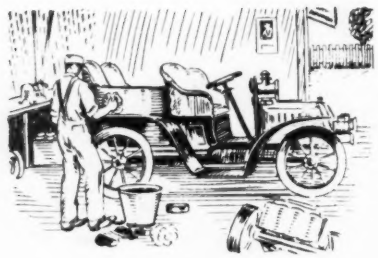

..... 25 years ago water and a sponge would do!

BACK in the days of the side-winding horseless carriage a sponge and water did quite well for a wash job.

Today, the time factor demands a speedy wash. Today, the more frequent (sometimes almost constant) use of the car requires a weekly wash. Today, chromium-plating and highly-polished body finishes claim more attention and a wash that is gentle as well as thorough.

In short, the automobile generation of today will not be satisfied with a "sponge-and-water" job. Nothing less than a Globe Simplex Car Washer will do.

Let us send you our circular "Car Washing—Make it Pay You a Bigger Profit with the New GLOBE SIMPLEX HI-PRESSURE CAR WASHER". Sixteen points of superiority are carefully detailed.

Our complete new catalog featuring GLOBE Two-Stage and Single-Stage AIR COMPRESSORS, AIR TOWERS, PAINT SPRAY OUTFITS, FITTINGS, and ACCESSORIES gladly mailed at your request.

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GLOBE
GARAGE & FILLING STATION EQUIPMENT

A Refiner on the Polo Field

This is Walter Miller, director of the Marland Refining Co. in charge of refining operations as he looked, mounted on Osage, acting as chief umpire at the Ponca City polo tournament last month.

Radiator Disks Speed Credit Sales Work

CLEVELAND, Nov. 3.—The Akron Oil Co., Akron, O., has a quick method for handling service station charge accounts.

Each customer who is extended credit facilities, is given a numbered disk which he seals to the radiator of his car. The number corresponds to the number of the customer's account on the company's books. The service station salesman notes the number and puts it on the sales slip which go to the company's offices.

This method saves time and considerable inconvenience to the customer who otherwise would have to fish in his pocket or wallet for an identification card.

Hutchinson Refining Sales Agent

HUTCHINSON, Kans., Nov. 3.—Hutchinson Oil Refining Co., with headquarters here, has appointed the Security Petroleum Co. of Kansas City as its exclusive sales representative, according to A. Frederickson, president of the former. All inquiries for products of the Hutchinson company should be addressed to the Security company at 503 Security bldg., Kansas City.

Standard of Ohio Has House Organ

CLEVELAND, Nov. 2.—The Standard Service Station Sales Bulletin made its initial appearance among oil company house organs on Oct. 20 when the Standard Oil Co. of Ohio put out this bulletin devoted to the marketing end of its business. It told of the mutual benefit plan the company has put into effect, which provides life and total permanent disability insurance for employes at a nominal cost.

A short biography of W. T. Holliday, who became president of the company last April took up the remainder of the front page. Another man who rose in the company's offices is told about in the bulletin. He is William J. Semple whose career began as office boy, and who is now controller of the company.

Changes which have occurred in its service station department during the past few months which have effected a large increase in sales, are pointed out by P. W. Close, special agent of the Cleveland district.

TRADE MARK REGISTERED U.S. PAT. OFF.

DU-CAL

A Meyercord Decalcomania Product

Write today for Samples and Prices

BRIGHT, COLORFUL WINDOW SIGNS THAT LAST!

A new improvement excelling everything that has gone before. Lasting, brilliant, extra heavy films of *your* lettering—trade mark—any design. Made of oil, with lacquer base, colors. Anybody can apply it. Simply dip in water. Saves time, labor and cost. *Lasts 2 to 4 times longer.* Washing does not injure it.

For Windows, Pumps, Drums, Etc.

Use the Meyercord method of lettering and trademarking—save money—and have this finer, more durable advertising, on Windows, Pumps, Drums, Barrels, etc. Goes on any surface.

THE MEYERCORD CO.

120 South La Salle St., Chicago

Branch offices in all principal cities.

New Patents

October 30, 1928

REFINING

System for Gathering Gas from Oil Tanks, etc., of Refineries—Harry R. Maxon, Muncie, Ind. Filed May 19, 1926. No. 1,689,352.

Art of Cracking Hydrocarbons—John Perl, New York, N. Y., assignor to Sinclair Refining Company, Chicago, Ill. Filed Nov. 20, 1924. No. 1,689,362.

Art of Cracking Hydrocarbons Oil—John Perl, New York, N. Y., assignor to Sinclair Refining Company, Chicago, Ill. Filed Nov. 20, 1924. No. 1,689,363.

Petroleum-Cracking Process and Apparatus—John Jay Jakosky, Los Angeles, Calif. Filed Oct. 15, 1925. No. 1,689,590.

Peroxide of Hydrocarbon and Process of Making the Same—Alexander S. Ramage, Detroit, Mich. Filed April 27, 1925. No. 1,689,599.

Art of Distillation—George W. Watts, Whiting, Ind., assignor to Standard Oil Company, Whiting, Ind. Filed April 3, 1925. No. 1,689,606.

Heat Exchanger—Arthur P. Brocklebank, Elizabeth, N. J., assignor to Foster Wheeler Corp., New York, N. Y. Filed Nov. 5, 1927. No. 1,689,910.

Water-Distributing Means for Cooling Towers and the Like—George J. Stocker, St. Louis, Mo.; Mercantile Trust Company, St. Louis, Mo. Filed May 14, 1924. No. 1,690,092.

PRODUCTION

Drilling Apparatus—Warren A. Ross, Long Beach, Calif., assignor to Donald M. Carter, Chicago, Ill., and Truman O. Boyd, Long Beach, Calif. Filed Feb. 11, 1927. No. 1,689,455.

Fishing Tool—Richard N. Vickers, Smackover, Ark. Filed Dec. 29, 1927. No. 1,689,702.

Well Packer—Charles R. Meeker, Pittsburgh, Pa., assignor to Oil Well Supply Company, Pittsburgh, Pa. Filed Nov. 11, 1925. No. 1,689,956.

Tank-Car Valve—Albert M. Dow, El Paso, Tex. Filed Reb. 9, 1921. No. 1,689,998.

Method and Apparatus for Dehydrating Tar—Arthur W. Warner, Media, Pa. Filed June 12, 1924. No. 1,689,309.

Air Trap for Pipe Lines—Isaac Leonidas Capers, Eastland, Tex., assignor to Charles Edgar Capers, Amarillo, Tex. Filed Sept. 7, 1927. No. 1,689,477.

Receptacle for Volatile Liquids—Cleon R. Johnson, Houston, Tex., assignor to Standard Oil Development Company. Filed Nov. 13, 1924. No. 1,690,072.

"FLOOD RELIEF"

ARE you one of the many tank buyers who worry and fret about leaking storage tanks? Do you lie awake nights wondering whether, on the morrow, your tanks will show full or whether their contents (and your profits) have saturated Mother Earth?

Perhaps you have wondered about that kind of "flood relief". We've never made a study of the Mississippi problem, but on the subject of Relief for Leaky Tanks we are past masters. Our business is to build steel storage, which is your relief from that profit-stealing drip of leaking tanks.

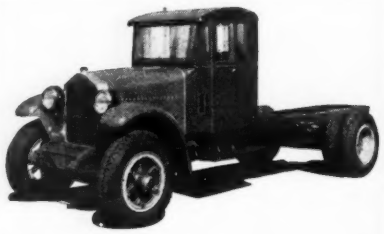
Write for Bulletin No. 15 for complete details.

THE YOUNGSTOWN BOILER & TANK CO.

YOUNGSTOWN, OHIO

Offices in Principal Cities

Youngstown TANKS "KEENE STANDARDIZED MADE"



HIGHLAND

for Cabs

The truck manufacturers and dealers of the country look to HIGHLAND for Cabs.

Some use the Highland line of standard cabs and some use Highland Engineers to design cabs especially for their chassis, taking advantage of the many standard Highland parts and production.

All Highland built cabs use THE ROCKER SILL MOUNTING, an exclusive feature, which allows the chassis frame to twist under the cab without wrecking it.

Highland Cabs may be had direct from factory or through one of our many distributors of Good Truck Equipments.

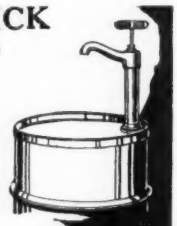
The Highland Body Mfg. Co.
430 Elmwood Place
Cincinnati, Ohio

You Can Double Your Bulk Sales

on Oil, Gas, etc.

Sell your "drive in" customers 50 gallons instead of 5, by making BULK buyers of them. Many companies are now doing it by using this handy

KWART KWICK
Home Oil Pump



It fits any drum or barrel, enabling the car owner to buy from you in drum lots. You get ALL his business ALL the time. And you can forget competition.

Pump is made of finest brass, steel and cast iron. Lasts indefinitely. Nominal in cost. Special discount to oil companies.

Mail the coupon below and let us outline our special sales plan, which is showing remarkable returns for so many companies.

Kwart Kwick Dep't.
VIKING PUMP CO.
Cedar Falls, Iowa

Mail This

Viking Pump Co., Dept. B.

Please send details about your Kwart Kwick Pump, and your special sales plan.

Name.....

Town.....

State.....

A Lesson in Salesmanship From the Circus

(Contributed)

RECENTLY, the boy and I went to the circus. Although the press agents might have been a bit over-enthusiastic about it, it was a good circus and we were entertained.

Possibly, some impressions as an ultimate consumer of circus wares might be interesting, particularly in relation to salesmanship of oil products.

While not a "tight-wad," I figured on the amount that would do a good job of circusing for us and put a five dollar bill into the watch pocket, feeling that would be ample. On our return, I found that, instead of having some change left, I had dug into the reserves to quite an extent. The reason for that was salesmanship.

Notwithstanding the fact that we had just finished luncheon before we started, we had no sooner reached the show grounds than the boy wanted a hamburger sandwich. Logical and fatherly counsel regarding cleanliness just did not belong. The hamburger man knew his onions and the way to make a twelve-year old boy want them. There was no sales talk nor apparent persuasion, but the butcher got his sales message across to the customer and, what is most important, made the sale.

We came to a large array of banners that showed curiosities, monstrosities and whatnot, with a picturesque man in front telling the crowd all about them. He didn't say much but he sold the idea. I might as well have tried to drag the tent past the boy as to drag the boy past the tent for he was sold—and so was I. We saw some really interesting—but that's beside the point.

Soon, we were in the menagerie looking at the animals. When we reached the elephants, we encountered another salesman who sold us some peanuts—not for ourselves but for the elephants. With a couple of well chosen words, he made us realize that it was fun to throw peanuts into the triangular aperture that serves the elephant for a mouth and we did it.

My first glance into the big tent disclosed that several hundred other people had arrived ahead of us and had taken the free seats. About the moment I made this discovery, I also discovered a man who took no time at all in selling me on the idea that we would have a seat of honor where all the best acts would do their prettiest right in front of us, if we didn't take too much time in deciding to buy reserved seats of him. We did. I could hardly get the money out fast enough. I was afraid someone else would get them ahead of me.

All afternoon, there was a constant procession of sellers that seemed to have just what we wanted at just the right time—lemonade, ice cream cones, cracker-jack, hot dog sandwiches and more peanuts. I grasped the opportunity to buy two programs—and neither of us looked at them after hastily glancing at them.

The circus is an ancient institution. Its attaches are experienced salesmen. They have reduced the art of flash, or quick salesmanship, to a science. A few words, a gesture at the right time and they know the public will respond.

They can make you thirsty when you were not; hungry, when you are already filled and curious when you have become almost satiated with seeing. As applied to their business, that is scientific salesmanship.

On the way home, we stopped to get some gas. We were served. It was a lovely day. The station attendant said it was and—he was a nice chap. Come to think of it, it was a nice day. We did not buy any thing except the gas and only five gallons of that. Imagine where we would have sat in the circus if the reserved seat seller had confined his sales talk to a pleasant remark about the weather. We would have gone both hungry and thirsty if the sellers of lemonade and sandwiches had simply said that it was a nice day—everybody would have thought it was a clown act.

Service station men can learn a lot from the circus. The same fundamentals of flash salesmanship can be applied to their business. The right words and the right gestures at the right time will sell as effectively at a filling station as at the circus.

"How's your oil?" rouses within me the temptation to reply in a facetious vein, although I never have so far. To me, it simply doesn't mean anything. Usually, even this poor excuse for a sales question is timed wrongly and asked after I have received my gas and am ready to leave.

The service we receive from our cars is what really brings us back to a station, time after time, but that service must be sold. To make the sale effectively, under the circumstances surrounding a station, flash salesmanship of a high order must be employed and, apparently, the circus people solved their problem in that direction, years ago.

How's your oil?

So's your Cousin Cornelia.

Variable Compression Engine Charts Knock Intensity of Motor Fuels

By J. C. Chatfield
N. P. N. STAFF WRITER

KANSAS CITY, Nov. 1

AN ANTI-KNOCK testing device has been installed in the laboratories of the Manhattan Oil Co. at Kansas City, subsidiary of the Independent Oil & Gas Co. of Tulsa, which has been designed to chart knock intensity of any given fuel at different compression ratios as well as to measure the power developed by motor fuels in terms of brake horsepower or electrical energy developed.

The device was developed under the direction of Carl L. Johnson, chief chemist for the company, and secretary of the Petroleum Division of the American Chemical Society. He has designed his apparatus along different lines than most of the types of knock testing machines now in use.

The Manhattan testing device was used by the company in developing its special anti-knock gasoline which is sold under the trade name "Man-Go-Gas." This special product is blended to a point where its benzol equivalent is well in excess of 40 per cent and has been sold successfully as a premium fuel. Man-Go-Gas was introduced through Manhattan stations several months before the company was sold to the Independent Oil & Gas Co. of Tulsa.

In developing his laboratory apparatus, Mr. Johnson sought to obtain a motor as nearly like the conventional automobile motor as possible. His idea was to obtain results in the laboratory which would be comparable to motor car operation.

The motor used in the laboratory was built on special order by the Cushman Motor Works of Lincoln, Neb. It is a single cylinder, L head, water cooled motor with a 3.5-inch bore and a 4.5-inch stroke. At 1,200 revolutions per minute the motor develops 3 horsepower. Battery ignition is used.

The cylinder head is equipped with a special screw controlled piston by means of which the compression ratio of the motor is controlled. The limits of variation are from 2 to 1 to 6.2 to 1. Calibration has been provided for all intermediate ratios.

One of the most interesting features of the engine is the method of measuring the intensity or quality of the knock developed. To accomplish this an Ashcroft Tabor indicator such as is used on steam engines to chart horsepower developed, has been applied to the cylinder head through a ¾-inch opening. The indicator is equipped with a lubricated valve so that it may be used or not on any test.

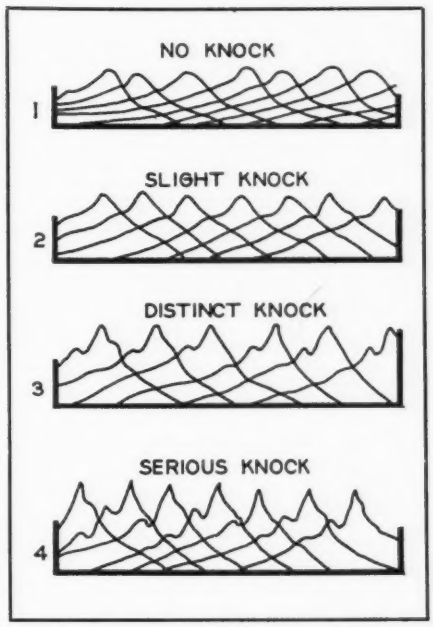


Fig. 1—Four explosion cards showing variations in pressure curves of various motor fuels ranging from a fuel which shows no knocking to a fuel which causes a serious knock

In steam engine practice the indicator is used to show pressures within the cylinder throughout the operating cycle from which the horsepower can be calculated. To do this the chart cylinder is arranged to work in both directions. As applied to the Manhattan engine, the chart cylinder is belt connected to the crankshaft and travels only in one direction. The pen thus shows only pressures within the cylinder on the firing stroke.

The Ashcroft indicator used consists of a plunger operating against a 150-pound steel spring which actuates a recording pen. As pressure rises in the cylinder head of the motor, the plunger is pushed against the spring and the movement is indicated on the chart.

An accompanying diagram Fig. 1 shows a series of explosion cards made on the indicating device illustrating the effect of knocking on the smoothness of the pressure rise and fall. One chart shows the pressure curve rising gradually to a rounded peak and falling smoothly on the down stroke of the piston. Such a chart shows that the motor is not knocking. Just below is an explosion card which indicates a slight knock. It will be observed that pressure rises smoothly to a given point and then there is a break followed by a second rise in pressure to a peak after which the drop in pressure is fairly smooth. A pre-ignition knock is shown by this curve.

The third curve was made when the engine was definitely and audibly knocking. In this curve it will be observed that there were two rises in pressure before the peak was reached and an actual drop in pressure before the last explosion in the cylinder. There is also an unevenness in the downward curve. The pressure drop from the peak is quite abrupt.

The fourth curve represents a severe knock. In this case the peak pressure is very sharp and the pre-ignition peaks are more pronounced than in any of the other charts reproduced.

The Manhattan motor is direct connected to a dynamometer which consists of a specially designed Marble-Card 3-kilowatt, 115-volt, 26-ampere generator. The field of the generator is excited externally from a direct current generator which is controllable to constant conditions.

An ammeter and a voltmeter indicate the condition of the generator field and adjustments to standard conditions may be made through a rheostat.

Brake horsepower measurements from the dynamometer may be made through the usual pony brake device which measures the torque of the generator in pounds. In this instance the radius of the lever arm is exactly one foot making the calculation of horsepower developed quite simple.

Electrical output of the generator is measured by a watthour meter. The generator load is provided by a battery of four 100 watt lamps and 10 200 watt lamps. By means of the watthour meter it is possible for the operator to check the pony brake readings by converting kilowatts into horsepower since the efficiency of the dynamo is known. For guidance of the operator an ammeter and voltmeter indicate the dynamo output.

A double check has been provided in counting engine revolutions. A

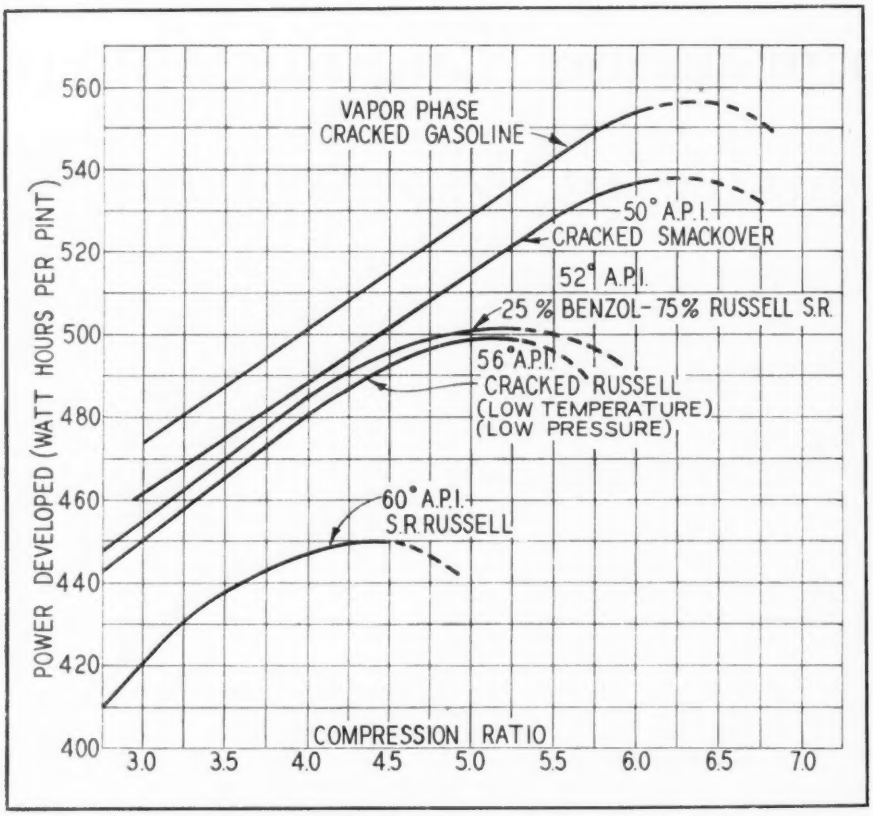


Fig. 2—Chart showing power developed in watt hours per pint of motor fuel consumed by five motor fuels tested at various compression ratios

Weston revolutions per minute indicator has been connected to the end of the generator shaft, which, as mentioned previously, is direct connected to the gasoline motor and rotates at the same speed as the crankshaft.

To check this instrument a totalizing counter has been installed in connection with the timer of the gasoline engine which counts the number of explosions. Two times the number of explosions recorded per minute should agree with the revolutions per minute shown by the electrical device. During all tests the motor is operated at 490 revolutions per minute.

By varying the compression ratio at which the motor is operated and recording the power developed it is possible to arrive at the highest useful compression ratio of any given fuel with the Manhattan machine. The highest useful compression ratio of the fuel, of course, would be that for the particular engine employed and would differ from a figure gotten on a Ricardo engine just as Ricardo results differ from those obtained on other engines.

In this case the figure would correspond more or less closely to that of the average motor car which was the aim in view.

An accompanying chart, Fig. 2, shows the power developed in terms of watt hours per pint of gasoline for various fuels at various compression ratios. The lowest line on the curve shows the power developed by straight run gasoline made from Russell crude which compares closely to Pennsylvania straight run gasoline in knocking qualities. This gasoline is used as a reference fuel in the Manhattan laboratories. Other lines are shown for gasoline made from cracked Russell crude, a 25 per cent benzol blend with straight run Russell gasoline, a cracked Smackover gasoline and a vapor phase cracked gasoline.

For the most part, power determinations are not made in routine testing work at the Manhattan laboratories. Instead the gasolines to be tested are compared with reference fuels for knocking qualities by the use of the explosion cards on the pressure indicating device previously described.

Routine practice consists of running the engine a half hour to warm it up, manually controlling the water jacket temperatures to 160 degrees Fahr. and bringing the temperature of exhaust gases to normal operating temperatures ranging from 650 to 675 degrees Fahr.

As soon as the motor is brought to normal conditions three reference fuel tests are made, one with straight run Russell gasoline, one with a blend of 40 per cent benzol and 60 per cent Russell and a third with 60 per cent benzol and 40 per cent Russell straight run gasoline. These tests runs are made for the purpose of calibrating the engine for the particular atmospheric conditions, i. e., pressures, humidity and temperatures prevailing at the time of tests. The compression ratio at which each of the reference fuels begins to knock is noted as a basis for interpolating the value of the fuel to be tested. The calibration is necessary before every test because of the impracticability of standardizing weather conditions artificially.

With the motor calibrated, the fuel system is purged of former fuels and the gasoline to be tested is supplied. As the motor is operated on the new fuel the compression ratio is varied until the motor is running with only a slight knock similar to Curve No. 2, Fig. 1 at approximately its greatest power output.

New Publications

The thirteenth annual edition (1928) of the Chemical Engineering catalog is off the press. The catalog is issued by the Chemical Catalog Co. Inc. To use the definition of the publishers, it is a "compilation of condensed catalog data supplemented by classified indexes of equipment, supplies, chemicals and materials and bound into a volume for convenient reference. It is the official standard reference work for chemical engineers, works managers, purchasing agents, operating engineers and others who buy and specify equipment and materials in the industries using chemical processes."

The catalog is distributed in the United States and Canada, it is stated, under either of the following plans:

1—Sent free of charge on the understanding that it is to be returned on publication of the next succeeding edition.

2—Sent on payment of $3 with mail or express charges prepaid with the understanding that it is to be retained permanently by the recipient, to those included in the following named classifications:

1—Chemical engineers, works managers, superintendents, etc.

2—Consulting, designing and constructing engineers in chemical lines.

3—Chief chemists of industrial and research laboratories.

4—Heads of chemical engineering departments in universities, colleges and technical schools.

5—Technical departments of the United States and foreign governments and libraries.

To those outside the United States and Canada who are included in these classes the book is sent upon payment of $3 plus postage. A charge of $10 a copy is made to those not included in the above classes.

Saul A. Joseph, formerly connected with National Supply Co. and later Associated Supply until its sale to Republic, was recently named sales manager for American Steel Pipe & Tank Co., manufacturers of American Double Lock Oil Well Casing.

AMERICAN PRESSED IN FLANGES

Increase Good Will and Profits

Tight drums do more than prevent loss. They avoid cause for dissatisfaction on the part of customers who are entitled to full measure.

American Pressed-in Flanges are not only leak-proof, but also insure a clean product. No welding to produce scale that loosens and falls into the contents. Heating flanges to the welding point is the cause of uneven seats and leaky bungs.

Easy to put on and stays put. Absolute protection against substitution. Used by leading firms everywhere.

American Pressed-in Flanges are precise fitting—insuring precision plug seats and a clean surface inside and out. There's an end to worry on the score of leaks and complaints when your drums are so equipped—and remember, *they cost no more.*

The concerns listed at the right will supply you with drums equipped with American Pressed-in Flanges. More than three-fourths of the drums made today are equipped with them, and the number of satisfied users is increasing rapidly. Could there be more convincing proof of their merit?

American Lugs for Wire Seals

These Companies will also furnish you with our Special Lugs (if you use wire seals or shipping tags). These Lugs cannot work loose or fall off. Write for full information on all our products.

American Container Co.
Atlas Steel Barrel Corporation
Boyle Manufacturing Company
Butler Manufacturing Company
Erie Steel Barrel Company
Manion Steel Barrel Company
Metal Containers, Ltd., London, England
Meurer Steel Barrel Company, Inc.
National Enameling & Stamping Co., Inc.
National Steel Barrel Co.
Niedringhaus, Inc.
Rheem Manufacturing Company
St. Louis Steel Package Co.
The Metallic Roofing Co. of Canada, Ltd.
The Ohio Corrugating Co.
The Petroleum Iron Works Co.
The Republic Steel Package Co.
The Republic Steel Package Company of California
The Stevens Metal Products Co.
Van Leer's Vereenigde Fabrieken, Amsterdam
Wheeling Corrugating Co.
Wheeling Steel Corp.
Wilson & Bennett Mfg. Co.

4646 Arthington Street **Chicago, Illinois**

Making Employes At Home At Get-Togethers

CHICAGO, Nov. 2

MANY oil jobbers build good will in their own organizations with food. Get together and eat, tell stories and sing and maybe dance, is a common recipe for cooking up good fellowship.

There is an oil jobber in Michigan who once did such things, but quit it. "I have a better way," he says, "a way more effective, and cheaper.

"Suppose I invited all my men to meet me at 6 o'clock some evening at the best hotel in town, to bring their wives or sweethearts for a genuine social good time, speech making, and all that. They would do it, of course, but at considerable cost.

"There would be quite a bit of confusion and wasted time on the job in advance, especially the day before. Some employe might feel that his best clothes were not good enough to let him appear as he would like to appear at the best hotel in town. He might be married and that discomfort might be shared by his wife.

"When we all reached the hotel there would be a spirit of timidity among the younger fellows, afraid they might be called on to make a talk. Of course that is always overcome and everybody has a good time. But it only happens once a year and the results do not last 12 months. Moreover, the company has entertained 50 people to reach 25.

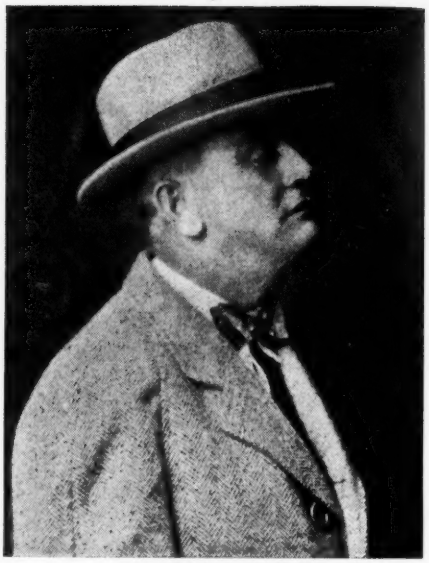
"A regular dinner at a regular hotel, starting with soup and ending with nuts and embracing chicken in conventional paper pants, costs $5 a plate. If one man buys it all he may be able to get it figured down to $4. Four times fifty is $200.

"Since I came to myself we have been having a social get-together once a month. I just tell the boys about Thursday to make their plans to meet me at the warehouse right after supper Friday night, to excuse themselves from their other dates if they can. I tell them to come washed up, ready to stay an hour or so.

"When they come it is a stag affair. They all know one another. There is no lost time and no awkward introductions. I always make it a point to have something to tell them—something they ought to know, something for the good of the business, something pleasant if possible. But I do not take up all the time with business. I allow them a lot of time for 'horse play' and talking among themselves. In the meeting I give them each a chance to talk. They can say it sitting down, which they like better.

"After the meeting, around 9:30 we all go down to the restaurant in the neighborhood and have something to eat together. They call it 'Coffee And' we enjoy it. Ordinarily we eat about 25 cents worth apiece—a sandwich or pie and coffee. They can have both if they want it. The cost is on the house.

"This way we have 12 times as many meetings. We spend 12 times as much time together socially. We talk business. We get some where. And note the saving! A dozen treats a year at 25 cents a treat is $3 per man. For the 25 men, this is $75 a year. We get a great deal more good in the way of 'industrial relations' at a saving of $100 a year, after spending $25 for camp chairs at the warehouse."



J. EDMUND SMITH

One of the old-time oil jobbers in Ohio, who on Oct. 1 sold his company, the J. E. Smith Oil Co., Washington Court House, O., to the Pure Oil Co., Chicago. Mr. Smith expects to devote most of his time to his oil interests in Chicago

Oil Company Builds Burners For Sale by Oil Companies

PROVIDENCE, R. I., Nov. 3

THE Pennsylvania Petroleum Products Co. of Providence is manufacturing an automatic fuel oil burner which it calls the Pierce after L. D. Pierce, president and general manager of the company. It is being merchandised through oil companies exclusively at present.

Mr. Pierce has been interested in domestic heating with oil for several years. In fact, he pioneered domestic heating with oil in Providence. He has sold two different makes of burners but with the aid of M. H. Braden he brought out his own burner in the last year. Mr. Braden, who is in charge of burner production, at one time was with the Williams Oil-O-Matic Heating Corp. and later was vice-president of the Nu-Way Corp., another burner manufacturer.

Mr. Pierce said elimination of waste was what inspired him to enter the burner manufacturing field. He said he was able to buy standard parts, have manufactured a few parts, assemble the burner, and install it much cheaper than the usual cost of installing an oil burner. Mr. Pierce is selling the knocked down burners to oil companies. Oil company mechanics and installation men are sent to the Pierce plant at Providence for training in setting up and installing the burners and controls.

The burners are made in several sizes to meet the requirements of different sized buildings and types of heating plants. All burners are of the gun type; that is, the motor and blower are outside the furnace or boiler and the air and oil lines enter through a tube or barrel.

"Our experience through the pioneering of domestic burners for fuel oil, firmly convinced us that some different method of production and distribution must be accomplished in order for us, or any other oil burning distributor, to serve the public and make it possible for the home owner to enjoy the comfort, convenience and other benefits of automatic heat, at a cost far below that which formerly has been possible," said Mr. Pierce who, besides heading the Providence company, is a director of the Independent Oil Men of America, the Empire Oil Works Co., Oil City, Pa., and the Tidioute Refining Co., Tidioute, Pa.

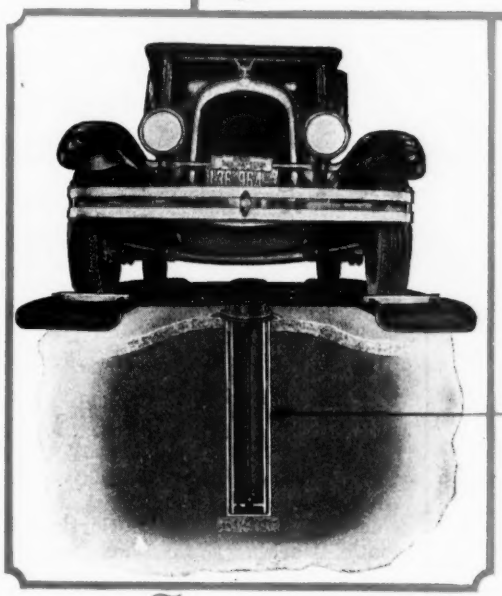
"With these facts before us, we have been instrumental in helping to organize a group of nationally known oil and oil burner distributors, together with the cooperation of nationally known manufacturers of oil burner parts and accessories, in such manner that it is now possible for us to have the advantage of a tremendous purchasing power.

"This organization has made it possible for us to offer for the public's selection a size of automatic fuel oil burner to heat buildings at an installed cost far below any other burner of equal quality and construction."

The New Service Station Technique

SERVICE STATION TECHNIQUE must keep apace with the ever-changing demands of the motoring public. The Marketer of oil and gasoline has learned the profit-sense of expanding his usefulness. Feeling our responsibility to the oil and gasoline dispensing companies, the STANDARD LIFT COMPANY have produced *the simplest and most economical lifting device ever offered experience-wise buyers.*

Free-Wheel OILDRAULIC showing movable cradle and axle steps. Lifts car by axles.



Full Protected By Patents

Drive-On OILDRAULIC showing "motor in head" arrangement of both OILDRAULIC types. No underground installations.

Oildraulic Revolving Lift

Trade Mark. ECONOMICAL in MORE WAYS THAN ONE

Electrically-Driven

The OILDRUALIC *Free Wheel* pictured here meets every requirement for chassis lubricating and the many other phases of Super-Service so rapidly become part of the merchandising work of the successful Marketer. Outstanding features include:

1. *Electrically driven—operating in oil and with oil.*
2. *No expensive underground installation.*
3. *Easily rotated at any height.*
4. *Scientific Brute Strength.*
5. *Simple Construction.*
6. *Approved by Safety Commissions everywhere.*
7. *Low first and operating cost.*

Operating cost less than 1/3c per car

In producing the OILDRAULIC Free Wheel, *this company is doing its part to increase the number and variety of all lifting operations, with resulting turn-over and pyramiding of profits in Service Station Technique.*

Pays for itself as you pay for it!

So thoroughly does each unit in the STANDARD LINE demonstrate its money-making possibilities that we have developed a plan whereby any filling station or garage can install one immediately and begin to increase profits. Send the coupon for full details.

GREATER production facilities . . . . greater financial strength . . . . coupled with *the only complete line of lifting devices** to meet every need in the dispensing of petroleum products and automotive service, is the latest contribution of the STANDARD LIFT COMPANY to insure worthwhile profit in service station operation.

*Oil-Electricity or AIR-Drive-On or Free Wheel Types.

STANDARD LIFT CO., Memphis, Tenn. Dept. NPN1

Send, without obligation, full information on your lifts.

Name _____

Address _____

Town _____ State _____

STANDARD LIFT CO.

First National Bank Bldg. Memphis, Tennessee

LARGEST MANUFACTURER OF COMPLETE LINE OF ROTATING LIFTS

ZERO COLD TEST GEAR LUBRICANT

a product of

A HIGHLY developed—reasonably priced transmission and differential lubricant—operates easily with temperature *below zero*—a dark plastic lubricant designed to meet general conditions of automotive transmissions—will not harden in cold weather—thoroughly coats gears and *will not channel*—this is the ideal all season lubricant—keeps its consistency in all temperatures.

Packed in 400, 200, and 100 pound drums, also all size cans—200 and 400 pound drums are equipped with special 2" opening to handle pump.

We manufacture a full line of Lubricating Greases and Specialties.

Write us for samples and prices.

FISKE BROTHERS REFINING CO.

24 State Street, New York, N. Y.

NEWARK, N. J. *Works* TOLEDO, OHIO

OIL TIGHT STORAGE

Cost No More Than The Leaky Kind

Why Buy Leakers?

Send us your inquiry for oil-tight equipment

BROWN SHEET IRON & STEEL CO.

St. Paul **Minnesota**

New Stations Building

Greenfield, O.—C. E. Eckert, filling station.
Atoka, Okla.—Magnolia Petroleum Co., filling station.
Weslaco, Tex.—C. M. Sherrill, filling station.
Olton, Tex.—Linsey Dennis, filling station.
Hutchinson, Kans.—Phillips Petroleum Co., filling station.
Springfield, Mo.—The Texas Co., filling station.
Coleman, Tex.—Stafford and Ed Baxter, filling station.
Albuquerque, N. M.—Al Mathieu Tire Co., filling station.
Plainville, Tex.—Phillips Petroleum Co., filling station.
Farmington, Mo.—E. C. Roberts, filling station.
Sterling, Colo.—F. R. Anderson, filling station.
New Bremen, O.—Charles Block, filling station.
Lewiston, Me.—United Motor Fuel Corp., several filling stations.
Haverstraw, N. Y.—Standard Oil Co., filling station.
Bridgewater, N. Y.—H. R. Schafer & Dr. S. W. Sweet, filling station.
Chatham, N. Y.—C. Scutt & O. Pulver, filling station.
Montgomery, Ala.—J. Gallagher, filling station.
Bayside, N. Y.—G. McLaughlin, filling station.
York, Neb.—Standard Oil Co., filling station.
St. Marys, Kans.—Roxana Petroleum Corp., filling station.
East Omaha, Neb.—R. Thigpen and H. Ragland, filling station.
Bandera, Tex.—C. Callahan, filling station.
Little Rock, Ark.—Dr. W. S. May, filling station.
Tulsa, Okla.—Skelly Oil Co., filling station.
Minneapolis, Minn.—Sixth Ave. Realty Co. filling station.
Archbold, O.—Harvey and Ralph Slagle, filling station.
Anderson, Ind.—John Garrett & Co., filling station.
Mellen, Wis.—G. E. Bielenberg, filling station.

Curtis Mfg. Co. Sells Block of Stock

CLEVELAND, Nov. 1.—Sixty thousand of the 200,000 shares of Curtis Mfg. Co., St. Louis, the company that owns the Curtis Pneumatic Machinery Co., has been sold to a syndicate which will shortly make a public offering of it, at $37 a share. Control of the company continues with the Steedman family of St. Louis, it was announced.

The remaining 140,000 shares of the stock will remain with the present officers and managers who are: E. H. Steedman, president; G. F. Steedman, vice-president; W. C. Hecker, vice-president; Frank Ackerman, vice-president, and C. W. Fress secretary and treasurer.

The company manufactures air compressors, car washers, paint sprayers and other articles used by marketers.

T. Sutter, sales manager, A. T. Borst, manager and C. E. Burt, engineer, of Baker Casing Shoe Co., are in Tulsa attending the petroleum exposition where the company had a booth. After the exposition, a tour of the Mid-Continent oil fields will be taken and later Mr. Sutter will visit New York.

"Every customer we had last winter will be a customer again this winter . . . *with several of his friends*"

THAT is the way the Newton Lang Motor Company of Bloomfield, Iowa, feels about Eveready Prestone. "The perfect anti-freeze" has been a great success everywhere. We have received many letters from dealers expressing their complete satisfaction with and enthusiasm for Eveready Prestone as a profit-maker.

If you are not featuring this new cold-weather business builder, order a stock right away and profit by the sales that the advertising campaign in leading national magazines is creating right now. Furthermore, at the first forecast of freezing weather, full-page advertisements will appear in over 250 newspapers.

Eveready Prestone gives permanent winter protection with one filling and is the most thoroughly satisfactory anti-freeze ever marketed. Follow these simple service suggestions on your customers' cars and you will be more than repaid in goodwill and increased business: Remove accumulated rust and scale from the cooling system. Tighten all parts of the circulating system, including hose and pump connections, gaskets, expansion plates, drain cocks, pump glands and grease cups on water pump. Add water first, then Eveready Prestone and fill radiator only to within four inches of the top of the overflow pipe to prevent loss by expansion. Complete directions on the Eveready Prestone can.

Join the successful dealers who are featuring Eveready Prestone and making additional winter profits. See your jobber and order a stock right away.

Manufactured for

NATIONAL CARBON CO., Inc., New York, N. Y.

Branches:

ATLANTA, CHICAGO, KANSAS CITY, LONG ISLAND CITY, SAN FRANCISCO

By CARBIDE AND CARBON CHEMICALS CORPORATION

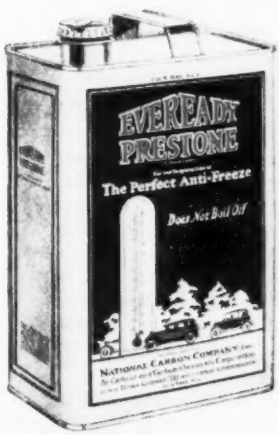
Units of Union Carbide and Carbon Corporation

EVEREADY PRESTONE

(TRADEMARK)

For the Preparation of

The Perfect Anti-Freeze



The Woman Tourist's Answer to the Question of the Pay Lock Toilet

By Beatrice Barrett

THE ladies have their inning at telling what they think of pay locks in our service station rest rooms. Miss Barrett, a Chicago newspaperwoman who contributed to the Oct. 10 *issue of* NATIONAL PETROLEUM NEWS, *presents this subject after talking with several women who do much traveling.*

The pay locks for service station toilets idea came up through a contributor in the Aug. 1 *issue, who was inspired by an article by a* NATIONAL PETROLEUM NEWS *staff writer in the July* 18 *issue. Subsequent information on how our industry reacts to the idea was published in the issues for Aug.* 15, *Sept* 12, *Oct.* 3, *Oct.* 10 *and Oct.* 17.

WHEN the gasoline station man puts a coin lock on the door of his ladies toilet room he raises its standard in the eyes of the woman tourist, and he will find much more is expected of him.

He can no longer get by with a make shift toilet room in the rear of the station, tucked away in a corner of the work room—which is kept moderately clean—and advertise it as a "modern ladies rest room."

As a courtesy to his customers the rest room is accepted by them "as is," and no criticism made. But when they pay 5 cents they will undoubtedly "tell him plenty" if his so advertised "modern ladies rest room" is not really modern.

When a woman puts that nickel in the slot and opens the door of the toilet room she is going to expect at least a dollar's worth.

Maybe the time will come when the sign board along the highway reading, "Modern Ladies Rest Room — Pay Toilet," will be an incentive to make the women stop at that gasoline station. But, judging by the discussions I have had with a number of women drivers, it is going to be some time before many of the ladies get over the feeling they are being charged for something which it is their right to have for nothing. And they will drive right past that "pay toilet" sign until they come to a gasoline station which they know still extends an unpaid for courtesy to its patrons.

After the first rebellion the woman may like this innovation, but the man-at-the-gasoline-station is going to have to answer many complaints before this time comes—and probably he will be interested in knowing what a few of these are going to be, so he can think up some diplomatic way to answer them that will not make his customers angry and drive them away.

So I have talked with a number of women who are on the open road a good deal, and am giving you their views on the pay lock toilets.

With almost all the women questioned the first reaction was against pay toilets—they seemed to resent the idea. Then many of them qualified it by adding—"of course if it means the toilet room would be kept immaculately clean we would be glad to pay the nickel."

Their second remark in almost every instance was—"but probably we wouldn't have a nickel, and it would be embarrassing to have to go to the attendant before a station full of people and ask him please to make change for us."

The first woman questioned replied, "I wouldn't like it—neither will other women. It will be a fine thing for his competitor, though. If the competitor is just wise enough to advertise that he still extends this courtesy to his customers free of charge everyone will patronize him just to show the other fellow they don't like his methods."

"I imagine every woman's first impulse will be that they have no right to put locks on the doors," said another woman. "Our natural instinct is to resent anything which is barred against us. But our second thought may be different. Women naturally like new ideas—something different arouses their interest. Of course there are always some 'unconscientious objectors' to everything. But most women have a sense of fair play, and they will feel there are many arguments on the side of the owner of the gasoline station in favor of the nickel in the slot toilet."

"I think the person who is going to dislike the pay toilet most is the attendant at the gasoline station," was another argument. "You know how it is when you want to telephone—you never have a nickel when you want it. And the unsuspecting woman who goes into a rest room and is confronted with a nickel-in-the-slot lock is going to find she has no nickel.

"She will have to go out and ask the attendant if he will please change a dime for her. By about the middle of the first day—after the attendant has been stopped about 50 times by a woman asking him to give her change—when he has his place filled with cars waiting for gasoline and oil—that attendant is going to take an axe and go in and smash the coin lock."

A young wife said, "I hate to think what my husband will say about this nickel-in-the-slot business. He is one of these people who never wants to stop a minute for anything when he is touring. He dashes up to a gasoline station, fusses if he has to wait a minute for the attendant, and dashes off again. If I stop at the rest room—leave my purse in the car as I always do—find I have to have a nickel, and go back for my purse, he will simply have a fit over the delay. I bet he will check up on the stations and our car will never stop at one where he knows the toilet door is locked."

Right here we might make a suggestion to the manufacturers of the coin locks. If these are to be universal wouldn't it be a good idea to also invent a little machine to hang in the rest rooms where you could put in a dime or a quarter and grind out nickels in change.

"When I stop to think of it," the discussion went on, "I really don't see why the women should not help pay for the upkeep of these rest rooms anyway. Only we have been so used to having them free—in fact offered as a sort of premium if we would stop at that station for gasoline—that it seems like a tax on one of life's necessities, and the first impulse of any American is to rebel at unjust taxation."

"A number of gasoline stations in the past year have put up boxes in the rest rooms, with a sign above them, 'Please contribute to the upkeep of this toilet.' How many women have responded to the appeal I don't know. I have often wondered if such a sign, which certainly is legitimate, brought much return or whether the women simply overlooked it. I guess I have my answer if the pay toilet is found necessary."

"The difficulty of keeping a rest room sanitary and immaculately clean must be a very big item at a busy station. For while we hate to admit it, it certainly is true that people out on a holiday—while they may be most particular about everything in their

(*Continued on Page* 95)

BULLETIN EDITION
NEWS-AMERICAN
WEATHER
Continued cold today and tomorrow. Increased cloudiness, probably sleet tonight
PRICE THREE CENTS
UNIVERSAL CITY, DECEMBER 16, 1928
VOL. 87 - NO. 284
CITY FREEZES AS MERCURY DROPS
$500 CHECKS HELP SWELL STORM AID
Fund Reaches $76,603.86
STUDY ICE AS FLYING MENACE
Officials Meet Tomorrow at Airport.
HUNDREDS OF CARS STALL ON ICY STREETS
No Relief From Present Conditions Can Be Promised For Several Days; Blizzard On Way
URGES CITIZEN USE CIVIC PRIVILEGES
Head of National C. of C. Cites Obligations Under Free Government.
WARDEN TO START HIS INQUIRY TODAY
Asks Newspaper Men to Hear Junction City Prison Fire Quiz.

Here's the News that will *Sell* Barrels of ICY-FLO for you

ICY-FLO Oil is a secret blend of oils with a Pennsylvania base. ICY-FLO remains fluid at 30 below zero, lubricating instantly, thoroughly and safely any type of gasoline motor.

It only needs one real wintry spell to convince motorists of the cold weather advantages of ICY-FLO Oil.

Where ordinary oil, frozen, forces motorists to undergo provoking annoyances just to get started—it's a different story with ICY-FLO Oil. In the coldest weather ICY-FLO won't congeal! It stays liquid right down from 10° - 20° to 30° below zero. It helps starting, not hinders it and it gives safe lubrication at all temperatures and in all weathers.

ICY-FLO is more than a boon to motorists—it's a booster for filling station operators whose winter business naturally slacks off. For when you sell ICY-FLO, you will of course, sell more gasoline, more grease and more anti-freeze—and you'll build up a big extra patronage of grateful customers who'll stick by you throughout the year.

Get the ICY-FLO proposition now.

ICY - FLO
Fact No. 1

By actual friction tests Icy-Flo Oil shows greater "oiliness" or "greasiness" than any other oil of equal viscosity.

Write for prices, and samples and proposition to marketers and jobbers

The ARROW OIL COMPANY, Wooster, Ohio

ICY-FLO OIL

The Oil that flows at 30° below zero

Newspaper advertising, signs, folders and other advertising supplied free.

ICY-FLO is sold in either tank car lots or carload drums to marketers or jobbers.

Along the Air Lanes

Associated Oil Co. Organizes Aviation Division

The first Boeing bi-plane to be purchased by a commercial concern bought by the Associated Oil Co., San Francisco

SAN FRANCISCO, Nov. 2.—One of the recent additions to oil company "birds" is "Motormates," the Associated Oil Co.'s specially built Boeing mail plane. This biplane, which is the first Boeing plane to be purchased by a commercial concern, will stop at all flying fields in the company's sales territory to demonstrate its products.

The cabin accommodates two people. It has a double seat upholstered in high-grade green-gold leather. The instrument board at the front of the cabin is equipped with an altimeter, indicating time, speed and height at which the plane is traveling. A folding table has been placed below the instrument board, which serves as a dining table, card or writing table. The front wall of the cabin is equipped with a cupboard where food can be carried on long flights.

Wing span of the plane is 44 feet and the fuselage is 33 feet. A 425-horsepower Wasp engine, built by Pratt & Whitney, powers the plane. There are two control cockpits behind the cabin.

With the purchase of the airplane, the Associated company organized an aviation department as a branch of its sales department. Emory B. Bronte, senior lieutenant in the U. S. Naval Aviation Reserve, is in charge. Mr. Bronte accompanied Ernest L. Smith on the first civilian flight from California to Hawaii.

***

Upon receiving an order for 100 Bettis protectors from a Wyoming oil producer, Jack Ballagh, secretary of Patterson Ballagh Corp., Los Angeles, utilized one of the United States air mail planes and the following evening after the order was placed, had delivered the protectors in Wyoming.

After supervising the installation of the protectors, Mr. Ballagh went on to Tulsa to attend the International Petroleum Exposition. From there he is to tour the Mid-Continent oil fields.

***

James A. Talbot, president of Richfield Oil Co., Los Angeles, together with Harris M. Hanshue, president and general manager of Western Air Express, and with the aid of other business men and capitalists, has obtained control of the Fokker Aircraft Corp. of America from Anthony H. G. Fokker, in a deal involving approximately $15,000,000.

Mr. Talbot will be chairman of the board of Fokker Aircraft Corp. of America; Mr. Hanshue, president and general manager; Harland Tibbits, New York attorney, vice-president, and M. A. Reid of Los Angeles, secretary-treasurer.

The corporation proposes to erect in California, the largest single airplane factory in the country. Erection of the plant will probably begin in about 60 days. The exact location has not been chosen but it is expected that Los Angeles will be selected as the proper site.

***

The Spartan Aircraft Co. recently delivered a plane to a group of business men at Pampa who are preparing to organize a flying school. One of the backers of the school probably will be enrolled soon in the Spartan flying school for additional training, according to J. F. Nagle, salesmanager for the Spartan company.

***

Richfield Oil Co.'s tri-motored 14-passenger Fokker cabin monoplane, left Los Angeles at 8 a.m., Oct. 17, with nine passengers, arriving in San Francisco in time for the occupants to attend the organization luncheon of the "Gaveliers," a new section of the San Francisco Ad Club, consisting of past presidents.

The party left San Francisco at 2 p.m., arriving back in Los Angeles at 5 p.m. that same day.

***

Arthur Land, president of the Land Petroleum Co., Warrensburg Mo., has purchased a Lincoln-Paige three place cabin airplane.

***

Three airplanes of the Union Oil Co. of California Los Angeles, recently participated in the dedication program of the Santa Maria airport, Calif.

***

To expedite the work of its geological survey department in the remote sections of the north, Ontario Department of Mines is considering airplane service next summer.

Woman's Answer to Pay Lock Toilets

(*Continued from page* 90)

own home—seem to have no respect for the property of others. For that reason I guess it is another case of the innocent suffering for the guilty, and we should pay to help protect the gasoline station against the vandals of the road."

A woman who tours a great deal with her husband and three daughters objected, "The universal installation of pay toilets will add a good deal to the cost of the trip if every time we stop at a rest room we pay for my three daughters and myself—that will mean 20 cents for the use of the rest room.

"No thank you—when my husband stops for gasoline I will make him ask the attendant if they use coin locks on the ladies rest room—and if they do I will say 'drive on, John, you don't buy gasoline here.'"

"But," spoke up another woman, "you don't have to pay 20 cents. Just hold the door so it can't catch, and then as many people as you want can have the use of the rest room for the one nickel."

"That is one place where the owner of the gasoline station is going to get a jolt." exclaimed another. "If he is joyfully adding up on paper the approximate number of customers he will have for his pay toilet each month, multiplying that by 12, and being amazed by the large number which the 12 months bring—and then multiplying that by 5 cents and beginning to have visions of himself retiring from business and living on the proceeds from that coin lock—he better stop and subtract about one-fourth of the profits. For he cannot reckon on every person using that toilet paying 5 cents for it.

"When a family is concerned, no matter whether there are one or six, they will manage so it costs them just five cents for the family. And if women from two or three parties happen to be in the rest room at the same time, every woman in that room will take advantage of the first woman's nickel. That lock will not be allowed to catch again until the room is empty. It may be a case of 20 for a nickel instead of $1 for 20."

"If they want to get full value," retorted another woman, "they will have to keep a maid in attendance as they do at some pay toilets in hotels and stores. They force each one to pay their 5 cents because you pay the maid and she unlocks the door. But this method is liable to cause a great deal of adverse criticism. The maid would be constantly in trouble. And besides, I should think her salary would cost more than the profit on the pay toilet."

Here's a suggestion from a traveling woman. "The free rest room should be charged to up-keep by the owner of the station. He has no right to charge customers for it. If he feels, however, that it is a greater expense than he can stand, he should put a tax on something else besides the toilet room.

Let him have a machine where you put a penny in the slot for a small bar of soap. Or a machine where you pay a nickel for a clean towel. I think every women traveling on the road would welcome the sanitary towel machine in the rest rooms more than anything else. She would be delighted to pay a nickel for a clean, individual towel. In this way he would be giving the women something they want very much and they would be delighted to help with the up-keep, where they will resent the lock on the toilet."

One booster said, "Oh, I would be so glad if they would install coin locks. I always feel as if it was imposing on the owner of the station to walk away without paying for the privileges of the rest room. It makes you feel cheap. I would like so much to feel that I could pay for this convenience and courtesy that has been extended to me."

A woman from a small town looked at me aghast when I asked her what she thought of the lock on the door.

"You mean they expect us to pay 5 cents every time we stop at the rest room. They have their nerve. Why I think it is highway robbery. Believe me, I shall always drive right by with my nose in the air and buy my gasoline where they don't keep everything under lock and key.

"You people who live in cities may be educated to pay toilets, but we certainly are not in small towns. And I think it is a fair average to say that more than half of the tourists along the highways in summer are small town people.

"The man who still extends this courtesy free of charge to his gasoline patrons is going to get all this trade—and it certainly represents a large proportion of the tourist business."

In direct contrast to this comes the opinion of another woman who has always lived in the city. "I have always liked the idea of pay toilets. I feel that they are more exclusive, are much cleaner and more sanitary. But I must say this. If gasoline stations are going to have pay toilets—they should have two—one pay and one free. You are willing to pay for exclusiveness, but if there is only one toilet and that a pay toilet I can't see where you are getting exclusiveness—it is just a common toilet."

"That would be a different matter entirely," spoke up another. "If they have two or three toilets—one pay and the others free—we would all sanction it, I believe. For then we would feel that by putting a nickel in the slot we were helping to keep up that toilet so that others not able to pay, could also have the privilege of a clean toilet for which they would not have to pay. I would cast a strong vote for that arrangement."

"We do accept so much without a thought. I don't know how much profit they make on five gallons of gasoline, but it can't be an awful lot, and look at the service we expect in return—free air, free information, free toilet rooms, all kinds of courtesies.

"When you stop to think the rest room must be a great expense, both the original cost and the up-keep, and I think women should help with that up-keep. What's 5 cents when we think of all the courtesies we expect—and get—at the gasoline stations. We get $5 worth for nothing from the man-at-the-gasoline-station—surely we can't begrudge him 5 cents in return."

"I don't agree with you," retorted an alert business woman. "They should just charge that up to advertising. The importance of the modern rest room in getting trade can be estimated when you realize how every big gasoline station advertises them on every sign board. They use them as bait to make you stop at their station. Now are they going to turn around and be like those sight-seeing places where signs are plastered all over—'admission free'—and when you get in you have to pay to get out? It stands to reason that if they got patronage by having a free rest room—they are going to drive patronage to the other fellow when they make it a pay rest room."

"I have to disagree with you," the argument went on, "I not only like the idea of a pay toilet, but wonder why they don't go further. For instance, the man who has a tourist camp in connection with his gasoline station. Why doesn't he install one of those dressing rooms and showers like they have at railroad stations, where you put a quarter in the slot and have a nice hot shower.

"It seems to me people who travel 'tourist' and don't have the advantages of a 'room with bath' at a hotel, would rejoice at the idea of getting a hot shower when they stopped at night after a dusty drive.

"We probably will get used to the pay toilet if we have to," grumbled another. "But if I put a nickel in that slot I want a toilet room that is scrupulously clean, has dainty curtains at the windows, good soap, honest to goodness clean towels that don't look as if the whole world had used them before you came along."

And this woman in her brusque way had really expressed the opinion of all women. They are perfectly willing to contribute their mite toward cleanliness—but woe be to the gasoline station that charges for a toilet that is not absolutely clean. His fame—or infamy, will be spread far and wide among the women.

Why Collect a *Road* Tax from *Flyers?*

OIL marketers in many states have an opportunity to aid in the promotion of aviation by seeing to it that their state legislatures amend their gasoline tax laws to specifically provide the tax be not collected on gasoline sold for aviation fuel.

In so doing the oil man will be virtually helping to stimulate the market for his own products. Commercial flying is developing rapidly. Every stone that is taken out of the path of its growth hastens the time when aviation will become one of the oil industry's principal customers.

To collect the gasoline tax on aviation fuel is a wrongful collection in the first place. The purpose of the tax is to provide funds for keeping up the highways by taxing the gasoline used on the highways.

To force the collection of the tax on fuel used in airplanes, and then refund it after the user has gone through the usual red tape is just about as bad. There is no reason why the flyer should pay it in the first place.

There is little likelihood of the state being cheated out of the tax rightfully due it through oil companies reporting as sales for airplane use gasoline actually going for motor car fuel. A special grade of fuel is used for airplanes. What is actually used for flying can only be sold at the airports. The state could secure reports from the flying field of the sales of gasoline there and the oil companies supplying that fuel, to check against the oil company returns.

Flying is a pioneer industry today. It should have every stimulus in its development that can be given. Removing the collection of the gasoline tax on aviation fuel is one such stimulus.

Half Refund Tax on Aviation Gasoline

TULSA, Nov. 3

WHEN gasoline on which a state tax has been paid becomes fuel for use in airplanes, 26 states will refund the tax paid on that gasoline, according to a compilation of answers to questionnaires recently sent to officials of the 46 states having gasoline tax laws.

Laws of four states provide a refund of the tax paid on gasoline used for agricultural, industrial and domestic purposes but make no other provision for refund. Two of these states have had requests for refund on aviation gasoline and are understood to have granted the request, while the other two states have never had a request for refund.

Laws of 16 states permit no refund of the gasoline tax, whatever the use.

Due to the rapid strides being made in aviation, refiners and natural gasoline manufacturers have been devoting a great deal of attention to the production of aviation fuel. Sales have not been limited necessarily to normal marketing territories where the refiners and manufacturers have long been familiar with the gasoline tax laws of the states.

New accounts in more distant states bring inquiries as to whether there are provisions in the state laws allowing refunds on gasoline used in airplanes.

The laws of the 11 states which have provided for a refund by specifically mentioning airplanes need no explanation. The legislatures of these states are to be congratulated on their farsightedness in leaving no doubt as to the intention of the gasoline tax law.

While the laws of the other 15 states allowing a refund do not specifically mention airplanes, the wording of the laws in virtually every instance is such as to exempt from taxation all gasolines not used to operate motor vehicles on the highways. The only way a tax on aviation fuel could not be refunded would be for the pilot to taxi his plane around over the state's highways. And that isn't being done just now in even the best aviation circles.

There are two slight variations in the cases of Maine and New Jersey. The Maine law provides for a refund of three-fourths of the tax when the gasoline is used for purposes other than propelling motor vehicles on the public highways. Perhaps the retention of the one-fourth is to cover the handling charge in connection with the collection and then refunding of the tax.

New Jersey provides for no refund, but does provide exemption blanks which are to be filled out at the time the gasoline is purchased, if the fuel is not to be used in motor vehicles operated on the highways.

It is interesting to note that every state from South Carolina around to Texas, which touches the Atlantic ocean or the Gulf of Mexico, has no provision in the law for a refund, except in one or two instances where refunds are permitted when gasoline is loaded on U. S. vessels, or is sold to the U. S. government. To the legislatures of these southern states, as well as to those of Penn-

Table No. 1

THESE 11 states provide for a refund of tax paid on gasoline when used as aviation fuel and specifically use the word "airplane" in the text of the gasoline tax law:

Arizona	*Maryland*	*Virginia*
Delaware	*Rhode Island*	*West Virginia*
Idaho	*South Dakota*	*Wisconsin*
Indiana		*Massachusetts*

These 15 states provide for a refund of tax paid on all gasoline not used to operate motor vehicles on the highway, and accordingly grant refunds when the tax has been paid on aviation fuel:

California	*Missouri*	*North Carolina*
Colorado	*Michigan*	*New Hampshire*
Connecticut	*Minnesota*	*Ohio*
Kansas	*Nevada*	*Oregon*
Maine	*New Jersey*	*Washington*

These 16 states have no provision in gasoline tax law for refund when fuel is used to operate airplanes:

Alabama	*Mississippi*	*South Carolina*
Florida	*New Mexico*	*Tennessee*
Georgia	*Nebraska*	*Texas*
Kentucky	*Oklahoma*	*Vermont*
Louisiana	*Wyoming*	*Utah*
	Pennsylvania	

The laws of Arkansas, Iowa, Montana and North Dakota provide for refund of tax when gasoline is used for agricultural, industrial and domestic purposes. Refunds on aviation fuel have been requested in Arkansas and Iowa, but not so far in Montana or North Dakota.

sylvania, Vermont, New Mexico, Wyoming, Oklahoma and Nebraska, gasoline is gasoline and tax on gasoline is a tax, with Uncle Sam the only one due any exemption.

In Oklahoma the law provides for a refund when the gasoline is transported out of the state. Now, if some aviation enthusiast will only load up his plane, hop to the state line and then gauge his tank and apply for a refund on the unused portion—that will be another story.

The time limit for filing claims for refund varies in several of the laws. In a few states the limit is four months while in one state the limit is six months. The average apparently is 90 days, with two or three states requiring that the requests be filed in 60 days.

A few state laws go so far as to specify the minimum amount of gasoline on which a request for refund of tax can be collected. These minimums range from 5 gallons up to 25 gallons, but the majority of the laws do not state specifically the minimum amount on which a claim for a refund can be filed.

Max Ball Opens Consulting Offices at Denver, Tulsa

DENVER, Nov. 2.—Max W. Ball, head of the Marine Oil Co. and later the consolidated Argo Oil Co., has resigned the presidency of the latter to engage as a consulting petroleum engineer. He will have offices in the First National Bank Bldg., Denver and in the Exchange National Bank Bldg., Tulsa.

Mr. Ball has been identified for a number of years with the producing industry in the Rocky Mountain fields, particularly in the Salt Creek field in Wyoming. He has to his credit the building of the first common carrier pipe line out of Salt Creek, which he built in 1921 after he had left the Royal Dutch Shell to organize the Western Pipe Line Co.

In the fall of 1922 he became president of the Marine Oil Co., which later consolidated as the Argo Oil Co. with the Royalty & Producers Corp., the Wyokans Oil Syndicate, the Glenrock Oil Co., Inc., and the Western States Oil & Land Co. The Argo company has holdings in Wyoming, Montana, Colorado, Oklahoma, Kansas and Texas.

Mr. Ball has also been with the U. S. Geological Survey and with the Bureau of Mines for a number of years. He is a graduate of the Colorado School of Mines and of the National University Law School. In 1923 and 1924 he was president of the American Association of Petroleum Geologists.

Steel Buildings for Every Purpose

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We manufacture the simplest to the most elaborate filling stations. If you have in mind any additions or improvements, let us furnish you plans and prices.

The Edwards Manufacturing Co.

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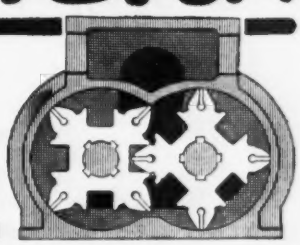
NORTHERN ROTARY PUMPS

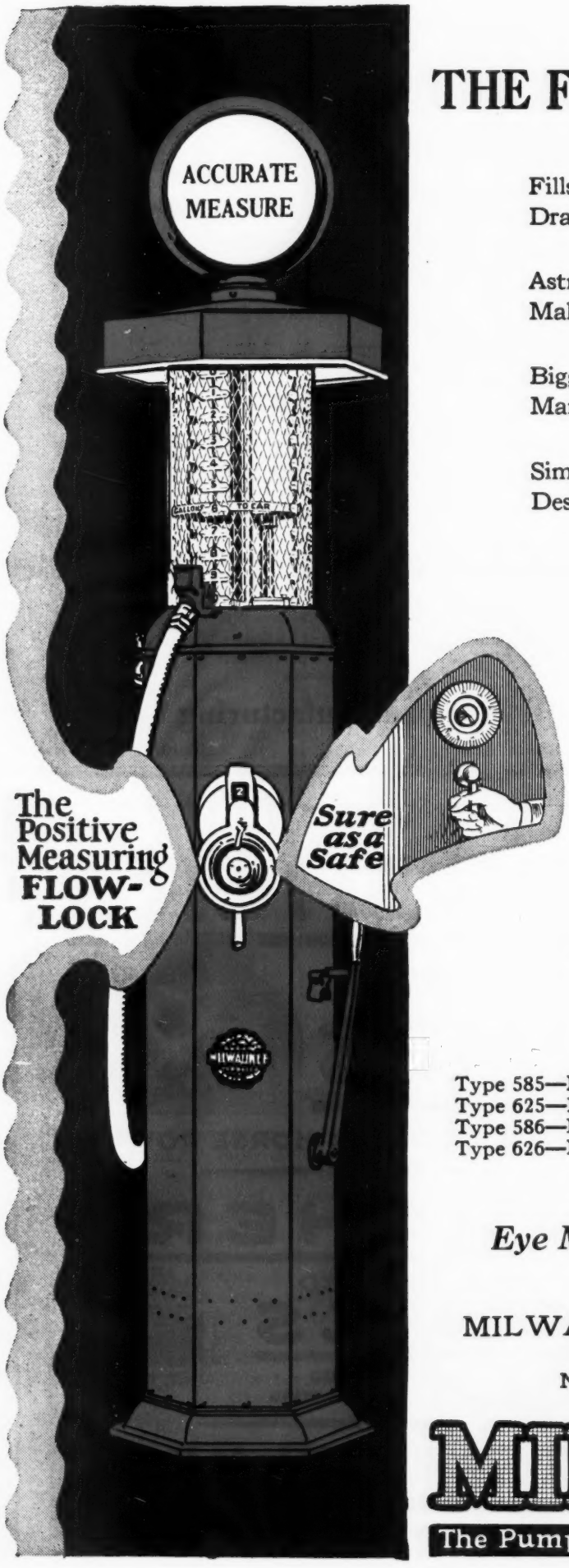


"MORE GALLONS PER HORSE POWER"

NORTHERN DOUBLE PACKED VALVES

BALANCED - LUBRICATED
CAN'T STAY STUCK - CAN'T KEEP LEAKING

NORTHERN PUMP CO.
MINNEAPOLIS, MINN.
OFFICES IN ALL PRINCIPAL CITIES



THE FASTEST VISIBLE

Fills In 20 Seconds
Drains In 20 Seconds

Astral Glass Bowls
Make Gas Look Like Crystal

Biggest Value On The
Market—Wet or Dry Hose

Simplified, Trouble-proof
Design

A Revelation In Ease Of
Operation, Speed and
Satisfaction

Meets Requirements
Of All States

Commanding, Dignified
Appearance Attracts
Trade

Used By More Than
1000 Oil Companies

PRICES

Type 585—Hand—Bottom Up Serve	$112.
Type 625—Hand—Top Down Serve	117.
Type 586—Motor—Bottom Up Serve	170.
Type 626—Motor—Top Down Serve	175.

F. O. B. Milwaukee

Eye Measure Visibles Also

MILWAUKEE TANK WORKS
Milwaukee, Wisconsin
New York—Woolworth Bldg.

MILWAUKEE
The Pump of Compulsory Accuracy

SUCCESS with NATURALINE

NATURALINE, besides being the super-aviation fuel, is a wonderful medium for blending a premium grade, anti-knock, quick-starting, smooth-running fuel for motor cars.

Motozest Carries 25 Per Cent Naturaline

For the past several months the Redmond and Bramley Oil Companies of Rensselaer, New York, who are supplying Naturaline to the Albany Airport under our exclusive franchise, have been using it as a blend in making their MOTOZEST, which is a Benzol Blend Premium Fuel. Their satisfaction with Naturaline is expressed as follows:

"Since using Naturaline we have cut our Benzol content from 40 per cent down to 25 per cent and have increased the quality of our MOTOZEST very materially.

Naturaline Helps to Increase Gallonage

"We think we are justified in our belief that there is no motor fuel marketed in this section that can compare with MOTOZEST in anti-knock qualities, easy starting, power and mileage, and SINCE USING NATURALINE IN OUR BLENDING, OUR GALLONAGE HAS INCREASED MATERIALLY."

THE SUPER-AVIATION FUEL

Naturaline is made entirely from natural gasoline and demonstrates a decided superiority in quick-starting, fast pick-up, greater speed — 20 to 25 per cent more power.

It has high volatility without gas lock, complete combustion and complete burning even at low temperatures, does not cause the carburetor to freeze at high altitudes, and WEIGHS 46 POUNDS PER 100 GALLONS LESS THAN DOMESTIC AVIATION FUEL.

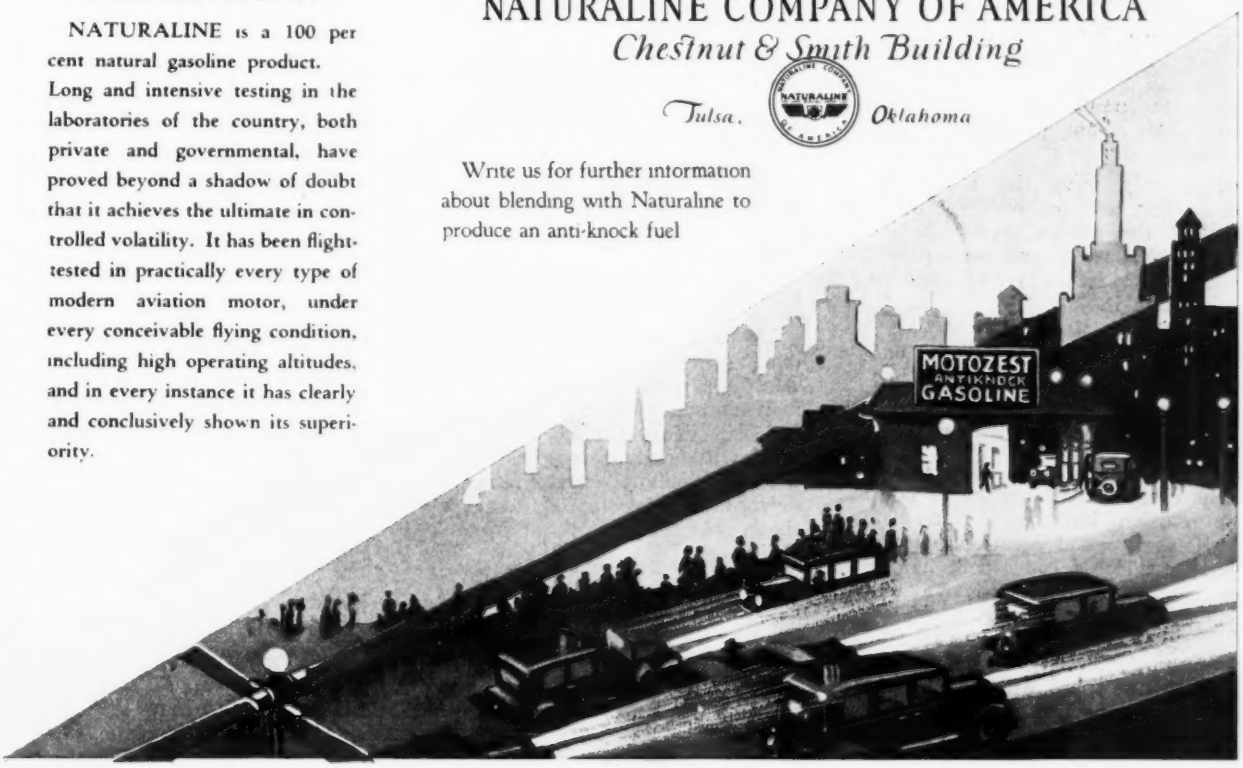
NATURALINE
A SUPER AVIATION MOTOR FUEL

A 100 PER CENT NATURAL GASOLINE PRODUCT

NATURALINE is a 100 per cent natural gasoline product. Long and intensive testing in the laboratories of the country, both private and governmental, have proved beyond a shadow of doubt that it achieves the ultimate in controlled volatility. It has been flight-tested in practically every type of modern aviation motor, under every conceivable flying condition, including high operating altitudes, and in every instance it has clearly and conclusively shown its superiority.

NATURALINE COMPANY OF AMERICA
Chestnut & Smith Building
Tulsa, Oklahoma

Write us for further information about blending with Naturaline to produce an anti-knock fuel



Lack of cash and a desire for a college education resulted in this attractive station designed and built by Clyde and Curlee Ittner, Oklahoma City, Okla. Profits accruing from the business at this station sent both of these boys through school

Boys Build Filling Station To Earn College Course

OKLAHOMA CITY, Nov. 1.—If the Allies were able to ride to victory on a wave of oil, as has been declared, gestures much less stupendous and enterprising than the World War, should result in victory through the aid of that commodity.

At least, so reasoned Clyde and Curlee Ittner, two Oklahoma City boys who were eager to acquire a college education. Among the disadvantages of acquiring such an education may be the lack of ready cash. The Ittner brothers seemed to experience this affliction. But they decided to overcome it, and so they entered the oil business.

The boys themselves designed and built the service station which you see in the accompanying picture, with some help from their father and a friend.

Not only were the boys able to earn their college degrees with the help of the profits from this station but it has proven so successful that their father left a $250 a month job to manage it.

The station itself is attractive, built along old English architectural lines now so popular among the better class of service stations.

No "ballyho" stunts nor novel merchandising ideas have been put into effect at this station. No boisterous signs clutter up the grounds nor hide the station building. Not even a particularly good location, as far as heavy traffic is concerned, has given it the advantages that traffic usually brings.

The natural beauty of the station, clean, uncluttered grounds, and courtesy on the part of the attendants, are three important things the Ittner boys claim have won them success.

Strict attention is paid to the one phase of cleanliness. Not only is the station and grounds kept clean and orderly, but the boys see to it that their own personal appearance and attire is beyond reproach. This same idea is carried out when serving a customer. If any grease or dirt spots are found on an obviously new or almost new car driving into the station, these are erased.

All cars are given water when they drive in, and tires are given a casual inspection to see that they are in good condition.

Gasoline, motor oils and accessories are handled.

Ten District Oil Clubs In Pennsylvania

HARRISBURG, Nov. 2.—Lubrication, salesmanship and cost accounting for the oil marketer are the problems to be tackled intensely by the Pennsylvania Oil Men's Association for the benefit of its members, according to R. A. Overholser, executive secretary.

The first project will include the training of service station attendants. Tentative plans provide for a visit by instructors familiar with lubrication and salesmanship to every member of the association to give that member's attendants and tank wagon drivers a short intensified course in the fundamentals of lubrication and selling.

The second will be a study of cost accounting; and the third will have as its aim the education of the public on the oil industry, through qualified speakers at such luncheon clubs as the Rotary, Kiwanis, Lions, and so on.

The effort to organize petroleum clubs throughout the state has resulted in the forming of 10 such clubs. The state has been divided into 13 districts, which leaves three more clubs to be organized.

Officers and names of the clubs which have so far been formed are:

Anthracite Petroleum Club: C. S. Kehler, Traffic Oil Co., Tremont, president; W. J. McLaren, McLaren Bros., Mahanoy City, vice-president; and R. A. Neiman, Neiman Auto Supply Co., Ashland, secretary-treasurer.

Colonel Drake Petroleum Club: H. F. Krathge, Empire Oil Works, Oil City, president; R. S. Newton, Sterling Oil Co., Emlenton, vice-president; and J. J. Fox, The Pennzoil Co., Oil City, secretary-treasurer.

Northeastern Petroleum Club: M. W. Collins, Jr., Maloney Oil & Mfg. Co., Scranton, president; Peter Gerrity, Egan Oil & Supply Co., Pittston, vice-president; and I. Bloom, Peerless Oil Co., Scranton, secretary-treasurer.

Northwestern Petroleum Club: William Bayer, Bayerson Oil Works, Erie, president; D. G. Eddy, D. G. Eddy Co., Inc., Meadville, vice-president; and C. W. Gebhardt, United Oil Mfg. Co., Erie, secretary-treasurer.

South Central Petroleum Club: N. C. Johnson, Pittsburgh Gasoline Co., Lancaster, president; H. E. Oberman, Keystone Oil Co., Harrisburg, vice president; and S. S. Kettering, Liberty Auto Supply Co., Lebanon, secretary-treasurer.

Southeastern Petroleum Club: S. W. Rusk, Rusk Oil Co., Philadelphia, president; Edward Cody, H. A. Vortigen, and Harry Smith, vice-presidents; Ed McLaughlin, Penn Petroleum & Supply Co., Philadelphia, secretary and Max Levinson, Peerless Service Station, Philadelphia, treasurer.

Southwestern Petroleum Club: W. M. Berlin, Economy Fuel Co., Greensburg, president; J. B. Flowers, J. B. Flowers & Co., Waynesburg, vice-president; and F. I. Saunders, Wertenbach-Saunders, Inc., McKeesport, Pa., secretary-treasurer.

Tri-County Petroleum Club: J. Meehan, Universal Oil Co., Johnstown, president; J. C. McGinnity, Penn United Oil Co., Blairsville, vice-president; M. E. D. Kanable, Independent Oil Co., Johnstown, secretary-treasurer.

West Central Petroleum Club: S. M. Cohn, Independent Oil Co., Altoona, president; W. L. Gulbranson, Gulbranson's Garage, Houtzdale, vice-president; Mrs. Stannert, Lewistown, secretary; and D. Wallner, Juniata Valley Gas & Oil Co., Lewistown, treasurer.

D. J. Moran, vice-president in charge of The Texas Co.'s producing activities, made an inspection tour of Texas and Oklahoma oil fields during the week in the new "Texaco No. 2" Lockheed-Vega airplane.

Light tells surprising things about Gasoline

Make this test yourself

Procure several 4-ounce bottles of gasoline. Include a bottle of PARCO. Expose them to the sunlight indefinitely and you will find that the poorly refined gasoline will show:

1—A Milky Appearance.
2—A Yellow Color.
3—Yellow, brown or black deposit that is not soluble in gasoline.
4—Disagreeable Odor.

PARCO, on the contrary, is guaranteed to be stable in color and will retain its crystal white color and sweet odor indefinitely without the slightest trace of any deposit whatever.

The sun's rays soon show up badly refined gasoline. When exposed to sunlight, it turns milky in appearance, has a disagreeable odor, takes on a yellow color and precipitates a yellow, brown or black deposit that is not soluble in gasoline.

Such unstable gasoline looks bad in pump bowls—is hard to sell. It deposits gum on the screens and in gasoline lines of cars and gradually corrodes the brass and copper parts with which it contacts.

Compare this with the GUARANTEED CRYSTAL WHITE COLOR of PARCO Gasoline. PARCO can be exposed indefinitely without the slightest change or deposit whatsoever. Its sweet odor is always constant. It is a pure, highly cracked product; rigidly controlled throughout its refining, rich in anti-knock value and has the correct, pre-determined seasonal volatility.

But—don't take our word for it. Make the test yourself. Our Division Sales offices will gladly supply you with a shipment sample of PARCO. You'll find PARCO'S GUARANTEED CRYSTAL WHITE COLOR entirely stable, its sweet odor constant, its anti-knock value high—a premium motor fuel without premium price.

PRODUCERS AND REFINERS CORPORATION

Independence Denver Chicago Tulsa Salt Lake City Memphis Omaha

Our modern Refinery at Parco was built to advantageously supply Northwest jobbers. . . . . Our Refining Facilities at West Tulsa and Blackwell mean advantageous freight rates for Southwest and Central States jobbers.

PARCO GASOLINE

PARCO PETROLEUM PRODUCTS

Seasonably Volatile . . . Anti-knock

All Petroleum Exporters to Be Invited Into Foreign Trade Association

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, Nov. 3.

IT IS the intention of the men who are pushing formation of a Webb-Pomerene association for the co-operative exportation of American petroleum products, and the joint development of foreign markets, to invite into the association all oil companies that are now engaged in export trade.

It is probable that the association will take the form of a joint stock company with the capital stock prorated according to the value of exports of the member companies.

The scope of the association's make-up is one of the many problems to be worked out by committees appointed at a meeting of more than 20 of the leading American petroleum exporters Oct. 15 in the office of Walter C. Teagle, president of the Standard Oil Co. of New Jersey.

Other problems, some of them peculiar to our industry, must be solved to the satisfaction of the companies who are expected to participate in the joint export association before actual organization proceeds.

The committees are at work and when they have progressed sufficiently they will be called together by Mr. Teagle who is chairman of the general committee which has charge of organization work.

The government is willing to co-operate in working out a more economical method of handling our foreign business. The Bureau of Foreign and Domestic Commerce, Department of Commerce, and the Federal Trade Commission have had a great deal of experience is assisting other industries to organize export trade associations since the Webb-Pomerene act was passed in 1918. These bureaus are anxious to pass along this information and cite the experiences of others in solving the problems that are preliminary to a cooperative effort of this kind.

The associations that have taken advantage of the Webb-Pomerene act, have steadily increased their trade. Last year the value of goods exported by these associations in various industries exceeded $300,000,000. In 1926 the value of the exports was $200,500,000 and in 1925 $165,000,000. In 1924 the value was $140,000,000. The last mentioned amount was exceeded last year by the value of the exports of the Copper Export Association alone.

The value of the petroleum exports in 1927 was more than 50 per cent greater than the value of the combined exports of 50-odd other export associations last year. In 1926 the value of the petroleum exports was more than 150 per cent greater than the combined exports of the organized exporters.

It is reasonable to assume that, if other industries whose foreign trade is infinitely smaller than that of our industry, find it profitable to do their foreign business cooperatively, the benefits that would accrue to us would be a great deal larger than theirs.

Frequent inquiries have been received by both the Department of Commerce and the Federal Trade Commission from oil companies that have wished to form cooperative export associations or corporations, but little has ever come of them. The one attempt at joint exporting was a failure largely because of internal dissension in the export enterprise, a New York petroleum exporter said this week.

One of the large oil companies inquired about formation of an export company soon after the war, said Miss Ellen L. Love of the Federal Trade Commission to whom joint export organizations report annually. Questions asked indicated the company was a bit skeptical and nothing more was heard about it.

From time to time "feelers" have been put out by some other companies both to the commission and to the Department of Commerce but in recent months more interest has been shown than in previous years. The Oct. 15 conference undoubtedly is the most inclusive effort to get all large petroleum exporters into an organization such as the Webb-Pomerene act permits.

One of the present leaders in the movement said he expected a great deal of difficulty in getting details worked out to the satisfaction of all companies. However, hope was expressed that most of the problems can be solved and this industry will find itself in better condition in markets abroad.

One of the chief problems that now presents itself is that of trademarked goods. Dr. William F. Notz of the division of commercial law, Bureau of Foreign and Domestic Commerce,

(*Continued on Page* 107)

Petroleum Exports in 1927 and 1926

THE figures in the table below show the volume and value of our export trade in petroleum products for 1926 and 1927.

By keeping the figures on the volume of gasoline and kerosene and lubricating oils consumed in our domestic trade in mind, as he studies this table, the reader can get an idea of the relative importance of the foreign trade.

Domestic gasoline consumption in 1927 (bbls.)..... 297,785,000
Domestic kerosene consumption in 1927 (bbls.)..... 37,491,000
Domestic lubricating oil consumption in 1927 (bbls.).... 21,669,000

	1927		1926	
	Volume	Value	Volume	Value
Gasoline (bbls.)	43,436,328	$210,369,625	42,479,876	$263,199,938
Kerosene (bbls.)	19,279,503	78,873,861	22,016,215	100,352,877
Gas and fuel oil (bbls.)	43,018,508	49,943,814	34,516,390	45,354,108
Red and pale oils (bbls.)	5,984,098	49,315,748	5,475,375	43,192,036
Black oil (bbls.)	671,912	3,486,700	609,093	3,510,853
Cylinder oils (bbls.)	2,966,884	36,024,417	3,171,891	39,711,732
Total liquid refined products (bbls.)	115,357,233	$428,014,165	108,268,840	$495,321,544
Greases (lbs.)	100,483,272	5,298,165	96,082,903	5,212,889
Wax (lbs.)	340,297,094	15,029,503	335,583,747	18,934,245
Asphalt (tons)	344,166	8,325,413	130,883	3,183,746
Coke (tons)	95,253	1,052,772	85,814	886,725
Residuum (bbls.)	217,446	591,504	159,639	608,343
Crude oil (bbls.)	15,843,405	25,944,489	15,406,045	28,495,773
Grand total (bbls.)	.....	$484,256,438	.....	$552,643,262

Third Oil Investment Trust Organized

CLEVELAND, Nov. 2.—A third oil investment trust has been organized. It is styled Petroleum Industries, Inc. and is chartered in Maryland. An offering of 100,000 units of one share of $50 preferred stock and one share of no par common stock was made last week at $70 per unit.

Directors of this third investment trust are: John W. Campbell, chairman of the New York Clearing House: Norman S. Taber, Providence, R. I., banker; Charles A. Kilvert, Providence, investment banker; Arnold L. Davis, New York, director of Oil Shares, Inc., and United Business Publishers; William K. Hughes, president, Continental Supply Co., St. Louis; John B. Lewis, Providence, importer and bank director; Phillip S. Chase, Providence, investment banker; T. J. Hartman, Tulsa, president, Producers National bank; Warwick M. Downing, vice-president, Salt Creek Consolidated Oil Co., and director, Oil Shares, Inc., and Nathan A. Gibson, Tulsa, attorney.

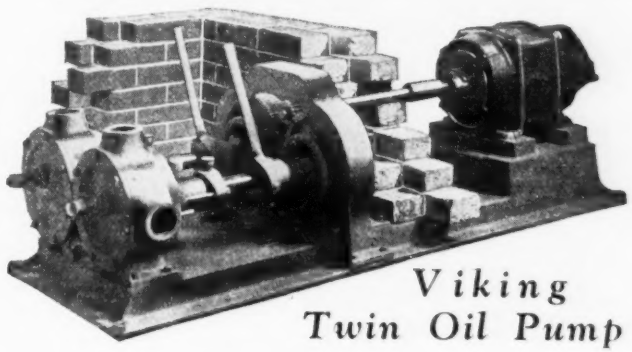
The company's by-laws provide that not less than 75 per cent of its funds must be invested in producing or proven oil and gas royalties and mineral rights, or, pending investment, in cash or its equivalent, or in securities of Standard Oil or leading Independent oil companies. Not more than 25 per cent may be invested in non-producing oil or gas royalties, or in the securities of other corporations engaged in the oil and gas royalty business, or in securities of companies directly related to the oil and gas industry. Not more than 10 per cent may be invested in any one company.

Petroleum Industries, Inc., has retained the service of the Petroleum Research Corp., of which Dr. Van H. Manning is director of research. Its advisory board consists of Dr. Manning, chairman; Barnabas Bryan; J. Henri Clos; Lewis H. Haney; Richard H. Lansburgh; Mahlon W. Mattison, director of accounting division of the American Petroleum Institute; Ray Vance, and Roy B. Kester.

Oil Shares, Inc., has the same advisory board with the exception of Mr. Kester. Oil Shares and Oilstocks, Ltd., are other petroleum investment trusts formed this year.

CHICAGO, Nov. 3.—Walter B. Ottenhoff, until Oct. 8 sales manager of the Chicago division of the Cities Service Oil Co., has resigned and gone into the oil jobbing business for himself in Chicago. Together with some associates, Mr. Ottenhoff has established the Midland Oil Co., at 2209 West Harrison street. He was succeeded at the Cities Service office by W. J. Hudson of the local organization.

Speed and Safety In Handling Oils



Viking Twin Oil Pump

The Viking Twin Oil Pump—one of many different types of the Viking Rotary. The Viking Twin will handle two different kinds or grades of oil at the same time. The pumps are mounted on one base, are controlled by individual friction clutches and can be operated separately and independent of each other. Capacities 50-90-200 gallons per minute per pump! Furnished with or without fire wall base. Illustration shows fire wall base—motor on other side of wall, away from possible leakage or evaporation—a valuable safety precaution. Catalog and Special Oil Pump folder of particular interest to oil men sent free—write for them today. Get the Viking Facts

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Walkerville, Ontario, Canada

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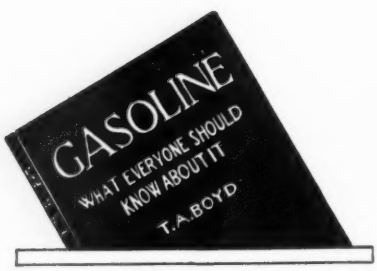
A successful department head remarked the other day:

> "I find it necessary to keep up a constant program for *self improvement* in order to prevent my becoming obsolete so far as my value to my company is concerned."

And to the study of the best books on his work, he attributed a good share of his advancement.

The **OIL MAN'S BOOKSHELF** will help you select books on oil that you can read with the greatest profit. If you do not find the subject you are interested in below, write us.



This is the complete story of *"Gasoline"* told in popular language, and written by an authority on the subject of its use in motor cars—T. A. Boyd, head of fuel oil section, General Motors Research Corp.

What gasoline is, where it comes from, its properties, what distinguishes good gasoline from bad, how the motorist can get more miles out of a gallon, and help in the economy of this important fuel—all these facts are given in chatty, non-technical style and profusely illustrated.

***"Gasoline"* is a message to the public that has so often been recommended to the oil industry. Every man engaged in the making and distributing of motor fuel should read it.**

206 pages—popularly priced at $2.50

Field Geology

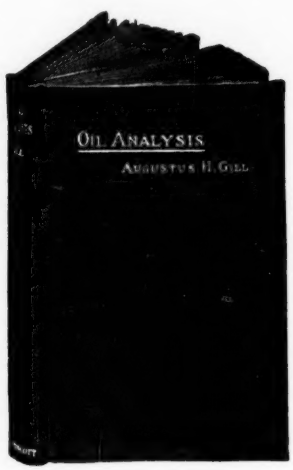
"Field Geology", by Fredrick H. Lahee, was written to serve the double purpose of pocket manual and textbook.

It covers methods of geologic surveying, the nature and construction of maps, sections and block diagrams, the interpretation of topographic and geologic maps, the solution of certain geologic computations and the preparation of geologic reports.

For those interested in petroleum geology, particular attention is called to the explanation of wells, logs and their correlation and application in the preparation of subsurface geologic maps.

It describes the porosity of sediments and causes and conditions of folding. There is also discussion of the fixed carbon ratio of coals.

$4



11th edition, revised and enlarged

OIL ANALYSIS by A. H. Gill, gives flash, fire and gravity tests for burning and lubricating oils. Also viscosity, friction and evaporation tests for lubricating oils. Shows how to examine an unknown oil to determine kind, quality and lubricating powers.

Two new chapters have been added, one on the composition of different oils; the other on the methods of examination of motor gasoline and fuel oil.

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Odd Stones, Colored Roof Glorify Station

Hand-hewn cypress, plate glass windows, and a slate roof in eight colors help to make this service station of Tuomy & Tuomy, Ann Arbor, Mich., one of the most artistic in the state. It is at the junction of U. S. 23 and M-17. It is of English toll gate design and built of faced field stone. Two ground levels add to its attractiveness, and roomy, cemented drives to its accessibility. It has basement, hot and cold running water, two rest rooms, indirect lighting with spotlights, six pumps, four air scales, two drain pits and quarters for attendants on second floor. Standard Oil products are handled. Proprietors are owners and subdividers of Tuomy Hills properties, east of Ann Arbor, famed for Michigan University.

All Oil Exporters To Be Invited Into Foreign Trade Association

(*Continued from Page* 102)

Department of Commerce, cites examples of how other industries than ours have solved the problem.

In the rubber tire industry the several manufacturers participating in a cooperative export trade association, market abroad under their own brand names. The benefits of the association are derived in the privilege of standardizing prices abroad, credits, billing, insurance, shipping, and methods of doing business.

The Walnut Export Association has established a joint trademark. In another lumber association the lumber is marketed under private brand names but the members are working toward a joint brand name. Some of the lumber is marked with both the private and the joint brand names. However, Dr. Notz said, one man's apparel association failed and was dissolved because each manufacturer insisted on selling his own goods wholly under his own name.

Costs of litigation were virtually eliminated by a lumber association after members when exporting individually had been deluged with claims that goods did not meet specifications. This association, Dr. Notz said, worked out uniform specifications and inspection. Inspectors of the export association now grade the lumber and mark the grades so that each grade is uniform. Exports of lubricating oils sadly know the troubles that arise from misunderstanding tests and specifications.

The lumber associations—there are six—pool their shipments into cargoes, thereby getting lower ocean rates and expediting the movement of their products.

The petroleum industry presents a different shipping problem from that presented by any other business. The petroleum exporters own most of the ships they use. These could be taken over by the joint association, Dr. Notz pointed out, or they could be pooled like the railroads pool their cars, and the association could manage all marine equipment.

The association could not engage in the import trade, Miss Love said, because the Webb-Pomerene act provides only for the facilitation of export of American products.

Whether a tanker that had been put into the service of the joint association, could deliver, for example, a cargo of fuel oil from an Atlantic coast refinery to a French port and then return by way of Venezuela for a cargo of crude oil, is one of the many points to be worked out. Delivery of the crude oil would be import trade but it has been suggested that each company keep its tankers and charter them to the export association for outgoing traffic only.

It is the custom of most existing associations to prorate the export orders among its members or owners, Miss Love said. Often quotas are assigned to members and if they are unable to fill their quota when an order is received, the unfilled portion is divided among the other members pro rata. It is the custom to change quota ratios periodically. Some associations make the change quarterly, others semi-annually, or annually.

Dr. Notz cited one association that made a considerable saving in handling foreign correspondence. Instead of each member having one or more expert translators, the translations of all members could probably be handled by one translator of each language. Perhaps one translator might handle several languages.

The Department of Commerce wishes to serve the oil industry, this writer was informed in Washington. It has men who have spent many years in the consular service who are willing to cooperate in forming a petroleum export association. Confidence was expressed that savings to be accomplished in such an association would be tremendous.

"On what, in the final analysis, would success depend?" Dr. Notz was asked.

"Management," was the answer.

ON THE LAZY BENCH

National Petroleum News

Out in New Mexico even public signs come direct to the point. In a garage at Albuquerque is posted:

"Don't smoke around the tank! If your life isn't worth anything, gasoline is!"

—*Our Sun*

* * *

"Was Maude in a bright red frock at the dance?"

"Some of her, darling; some of her."

—*Fusion Facts*

* * *

Making first selling trip: "I'm er, ah, er, a little stiff from bowling."

"I don't care where you're from. What are you selling?"

—*The Pure Oil News.*

* * *

"Is the telephone working?"

"I guess so; I can't get Central."

—*Our Sun*

* * *

We call your attention to the fact that although gold diggers used to be "forty-niners," they are now perfect 36's.

—*Magnolia Oil News*

* * *

"Was your garden a success this year?"

"I should say so. My neighbor's chickens took first prize at the poultry show."

—*Our Sun*

* * *

Lucky Lad

Teacher—"Willie, can you name me a city in Alaska?"

Willie—"No m'm."

Teacher—"Correct."

—*Magnolia Oil News*

* * *

Practical Figuring

Visiting Relative. "And when was the baby born?"

Modern Father. "Between the second payment on the radio and the tenth on the car."

—*Our Sun*

* * *

Here's My Foot

Gallant Guest (to hostess as they walk to the table)—"And may I sit on your right hand?"

Hostess—"No, I'll have to eat with that. You'd better take a chair."

—*Magnolia Oil News*

* * *

Try It

Henry—"I've just seen the world's greatest optimist!"

George—"Who is he?"

Henry—"A fellow out room hunting with a saxophone under his arm."

—*Our Sun*

* * *

Christmas Ties

"I gave Walter a beautiful necktie of my own make for a Christmas present," said Mable.

"Was he pleased?"

"Oh yes; he said its beauty shall be for no other eyes than his own. Wasn't that lovely of him?"

—*Magnolia Oil News*

* * *

Upon Naming Animals

Teacher. "Who can give me the name of some animal?"

Little Carl raised his hand timidly and said, "A little worm."

"Who can name some other animal?" the teacher asked.

Silence. . .little Carl raised his hand once more.

Again the teacher asked Carl, who timidly replied, "Another little worm."

—*Our Sun*

* * *

Shay, where does Tom Måloney live?

Why you're Tom, old boy!

Shure, but where does he live?

—*Fusion Facts*

* * *

"Well, well; if it isn't my old friend Bill! What are you doing these days?"

"Oh, I'm a salesman for the Lumpy Salt Co."

"By George, I'm a salt seller myself; shake!"

—*Our Sun*

* * *

Little Boy Blue, come blow your horn:

Your nearing the crossroads,

The brake lining worn!

Little Boy Blue didn't let out a peep,

Now he's under a tombstone, fast asleep.

—*Fusion Facts*

* * *

A city chap was taking a country girl for a ride in his car. Lowering a window he said: "Does that air bother you?" She looked at him dumbly for a moment, then asked, "That 'ere what, Bill?"

—*Our Sun*

* * *

Husband—"Is my wife in?"

Butler, answering the phone: "I think she's in the bath, sir—just a moment and I will see, sir."

Husband—"Never mind, I'll call later."

—*Fusion Facts*

* * *

"How yo' all getting along with yo' 'rithmetic, Sam?"

"Well, I don' learned to add the aughts all right, but de figgers bother me a lot."

—*Our Sun*

* * *

"Did you have much trouble in making the rescue?"

"A little. I had to hit him over the head with an oar to make him let go, but I finally got the keg aboard."

—*Fusion Facts*

* * *

E Pluribus Unum

"The car I have now once belonged to a multimillionaire."

"You don't say! Who was the multimillionaire?"

"Mr. Ford."

—*Our Sun*

* * *

Plumber—"I've come to fix that old tub in the kitchen."

Youngster—"Mamma, here's the doctor to see the cook."

—*Fusion Facts*

* * *

Good Gas

Gas Station Attendant—"What kind of gas do you want, sir?"

Brand New Motorist—"I've heard a lot about that 'monoxide gas'; is it any good?"

—*Our Sun*

* * *

A Scotchman sent his fiancee a package of flower seeds in which he put this note: "Plant these seeds now and you will have a nice bouquet for your birthday."

—*Fusion Facts*

* * *

"Listen," remarked the exasperated driver over his shoulder, "Lindbergh got to Paris, then to South America, without any advice from the backseat."

—*Our Sun*

* * *

"When the tourist arrived home he fell on his face and kissed the pavement of his native city."

"Emotion?"

"No, banana skin."

—*Fusion Facts*

* * *

"Do you know a reliable fortune teller?"

"Well, Dun & Bradstreet are rather good."

—*Our Sun*

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended November 2 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Nov. 2	Total Week Ended Oct. 5
Plants Reporting	12	29	28	12	81	82
Da. Av. Cap. (bbls.)	92,000	160,200	125,100	54,900	432,200	437,200
Da. Cracking Capacity	30,700	52,600	17,200	22,700	123,200	123,200
Da. Av. Crude Runs	66,397 + 12.3	116,421 + 2.3	86,081 — 0.7	65,893 + 8.5	334,792 + 4.5	321,510
Da. Av. Other Oils	*8,218 + 1.9	4,640 — 54.8	6,538 + 5.3	1,821 — 33.4	21,217 — 22.2	27,569
GASOLINE—Gallons						
Stocks, Oct. 26	6,612,000	28,192,000	17,021,000	5,453,000	57,278,000	48,861,000
Prod. 10-26 to 11-2	10,003,000 + 7.8	18,116,000 — 7.3	9,609,000 — 7.3	5,821,000 — 3.4	43,549,000 — 3.7	44,417,000
Ship. 10-26 to 11-2	7,861,000 — 24.1	17,534,000 — 3.7	8,882,000 — 3.1	5,662,000 — 3.5	39,939,000 — 8.4	43,942,000
Stocks, Nov. 2	8,754,000 + 32.4	28,774,00 + 2.1	17,748,000 + 4.3	5,612,000 + 2.9	60,888,000 + 6.3	49,336,000
Ratio Sales to Prod.	78.6%	96.8%	92.4%	97.3%	91.7%	98.9%
KEROSENE—Gallons						
Stocks, Oct. 26	7,233,000	4,677,000	2,036,000	362,000	14,308,000	13,947,000
Prod. 10-26 to 11-2	2,023,000 + 20.1	2,337,000 — 0.6	1,473,000 — 5.9	299,000 + 11.2	6,132,000 + 4.4	6,044,000
Ship. 10-26 to 11-2	1,182,000 — 31.2	1,928,000 + 2.1	1,369,000 — 10.2	320,000 — 47.0	4,799,000 — 16.4	6,596,000
Stocks, Nov. 2	8,074,000 + 11.6	5,086,000 + 8.7	2,140,000 + 5.1	341,000 — 5.8	15,641,000 + 9.3	13,395,000
Ratio Sales to Prod.	58.4%	82.4%	92.9%	107.0%	78.3%	109.1%
STOVE DISTILLATE—Gallons						
Stocks, Oct. 26	1,819,000	4,297,000	667,000	55,000	6,838,000	6,104,000
Prod. 10-26 to 11-2	217,000 +143.8	944,000 — 8.2	216,000 + 1.4	76,000 — 23.2	1,453,000 + 1.7	1,452,000
Ship. 10-26 to 11-2	128,000 — 39.6	764,000 + 12.0	111,000 — 1.8	63,000 — 33.0	1,066,000 — 3.2	1,428,000
Stocks, Nov. 2	1,908,000 + 4.9	4,477,000 + 4.2	772,000 + 15.7	68,000 + 23.6	7,225,000 + 5.7	6,128,000
Ratio Sales to Prod.	59.0%	80.9%	51.4%	82.9%	73.4%	98.3%
GAS OIL—Gallons						
Stocks, Oct. 26	6,934,000	37,234,000	9,429,000	6,550,000	60,147,000	56,432,000
Prod. 10-26 to 11-2	1,583,000 — 3.5	1,784,000 + 84.7	2,462,000 + 15.3	2,855,000 + 34.0	8,684,000 + 26.4	10,474,000
Ship. 10-26 to 11-2	1,785,000 + 8.6	3,889,000 +264.1	2,279,000 + 74.2	2,487,000 + 17.3	10,440,000 + 70.0	8,585,000
Stocks, Nov. 2	6,732,000 — 2.9	35,129,000 — 5.7	9,612,000 + 1.9	6,918,000 + 5.6	58,391,000 — 20.9	58,321,000
Ratio Sales to Prod.	112.8%	218.0%	92.6%	87.1%	120.2%	82.0%
FUEL OIL—Gallons						
Stocks, Oct. 26	29,861,000	58,622,000	71,739,000	22,964,000	183,186,000	182,143,000
Prod. 10-26 to 11-2	6,568,000 — 0.1	9,473,000 — 1.0	11,678,000 + 5.4	9,607,000 + 0.2	37,326,000 + 1.4	29,909,000
Ship. 10-26 to 11-2	5,212,000 + 15.5	9,482,000 + 2.0	10,498,000 — 2.1	8,917,000 + 2.6	34,109,000 + 2.7	31,707,000
Stocks, Nov. 2	31,217,000 + 4.5	58,613,000 — 0.02	72,919,000 + 1.6	23,654,000 + 3.0	186,403,000 + 1.8	180,345,000
Ratio Sales to Prod.	79.4%	100.1%	89.9%	92.8%	91.4%	106.0%

Gasoline Produced by Various Methods, Week Ended November 2

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	6,421,000	64.2	11,502,000	63.5	7,570,000	78.8	2,350,000	40.4	27,843,000	63.9
Cracked	3,067,000	30.7	5,286,000	29.2	1,623,000	16.9	2,819,000	48.4	12,795,000	29.4
Natural	515,000	5.1	1,328,000	7.3	416,000	4.3	652,000	11.2	2,911,000	6.7
Total	10,003,000		18,116,000		9,609,000		5,821,000		43,549,000	

+ or — columns are % change from previous week.

*Daily average other oils in Kansas for week ended Oct. 26 was given in error as 806 in Oct. 31 issue of NATIONAL PETROLEUM NEWS, due to error in telegraphic transmission. That figure should have been 8,061.

Gasoline Shipments Fall as Cold Wave Sweeps West

Staff Special—By Telegraph
TULSA, Nov. 6

SHIPMENTS of gasoline from 81 refineries in the Mid-Continent field fell 3,662,000 gallons the week ended Nov. 2, according to reports gathered by NATIONAL PETROLEUM NEWS. The decline coincided with the first genuine cold wave of this season.

Total shipments from reporting plants were 39,939,000 gallons as compared with 43,601,000 gallons in the week ended Oct. 26, a fall of 8.4 per cent. It was the first week that shipments of gasoline from reporting plants have been below 40,000,000 gallons since the week ended April 13, more than six months ago. A year ago approximately the same group of plants shipped 38,056,000 gallons of gasoline in the week ended Nov. 4.

Production of gasoline totaled 43,549,000 gallons, a reduction of 1,700,-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Nov. 2. Change in stocks figured from Oct. 5.

GASOLINE

	Gallons
Production	180,895,000
Shipments	169,343,000
Net change in stocks	+11,552,000
Ratio sales to production	93.6

KEROSENE

Production	23,976,000
Shipments	21,730,000
Net change in stocks	+2,246,000
Ratio sales to production	90.6%

STOVE DISTILLATE

Production	5,672,000
Shipments	4,575,000
Net change in stocks	+1,097,000
Ratio sales to production	80.7%

GAS OIL

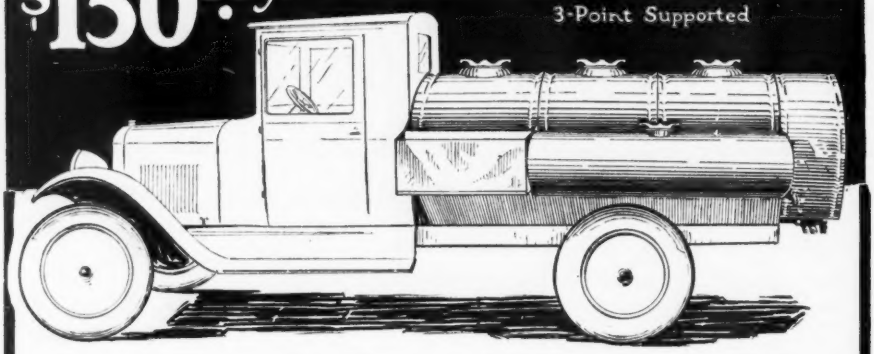
Production	31,796,000
Shipments	29,871,000
Net change in stocks	+1,925,000
Ratio sales to production	99.8%

FUEL OIL

Production	143,538,000
Shipments	137,480,000
Net change in stocks	+6,058,000
Ratio sales to production	95.8%

$150.00 for this Convertible TRUCK TANK

3-Point Supported



60 Extra Gallons In Side Tanks

IN THE space of an hour you can switch from side racks to side tanks—a 30 or a 50 gallon tank on each side—adding 60 or a 100 gallons capacity to care for extra demand on gasoline, kerosene or lube oil. This is just one of the convertible features of the New Convertible Truck Tank. It is 3-point Supported. The tank, the mounting, the pipe lines and the bucket box are welded into an integral unit of steel. It is interchangeable on Chevrolet Trucks or the New Ford Truck and others with back of cab lengths around 80 inches. Capacity 375 gallons.

$150.00 includes side racks f. o. b. Kansas City.
Faucets, side tanks and side barrel carriers are extra.

COLUMBIAN STEEL TANK COMPANY

1507 W. 12TH ST.

Partition mounting reduces weight and lowers tank.

COLUMBIAN Partition Mounted-3 Point Supported TRUCK TANK

KANSAS CITY, MO.

3 point support solves torque and vibration problem.

"What About The OILGRAM?"

—asked the executive of a gasoline company on the west coast recently of a Tulsa oil man. His answer was . . .

"If you were to wire me for Mid-Continent gasoline prices today, I would phone a member of the OILGRAM staff, and my reply to you would be the *gist of what he told me.* The OILGRAM staff is in direct and close contact with the markets almost every hour of the business day. *They know their business.*"

You too, can have the benefit of this close contact with all phases of the market at all the principal refining and marketing centers.

The service costs only $25 a quarter, or $75 a year, payable in advance. Approximately 30 cents a day—less than the cost of one wire or one phone call.

Avail yourself of this fast, daily market service today—send your order with check to the nearest mailing point.

TULSA—904 World Bldg.
CHICAGO—35 East Wacker Drive
NEW YORK—342 Madison Avenue
CLEVELAND—1213 West Third St.

000 gallons from the previous week's output. Stocks Nov. 2 stood at 60,888,000 gallons, an increase of 3,610,000 gallons. At the rate of shipments the past week stocks now represent 10.7 days' supply. Nov. 4, 1927, gasoline stocks were 59,178,000 gallons, or 10.9 days' supply at the rate of shipments at that time.

Most of the increase in gasoline stocks was reported from Kansas. Refiners in that state added 2,100,000 gallons to their reserves, bringing the total in that area to 8,754,000 gallons, a little over a week's supply. Oklahoma refiners added nearly 600,000 gallons to stocks bringing their total to 28,774,000 gallons and Texas plants added 700,000 gallons to stocks, bringing their total to 17,748,000 gallons. The north Louisiana and Arkansas group added only 150,000 gallons to their stocks keeping the total to 5,612,000 gallons, less than a week's supply.

In the last four weeks gasoline stocks at the 81 plants have been increased 11,552,000 gallons. In the corresponding four weeks last year stocks were increased 3,000,000 gallons.

Kerosene shipments fell nearly 1,000,000 gallons or 16.4 per cent to 4,799.000 gallons. Production was increased 260,000 gallons to 6,132,000 gallons. Stocks were increased 1,300,000 gallons to 15,641,000 gallons. Stocks were reduced slightly in Louisiana and Arkansas but increased in all other areas.

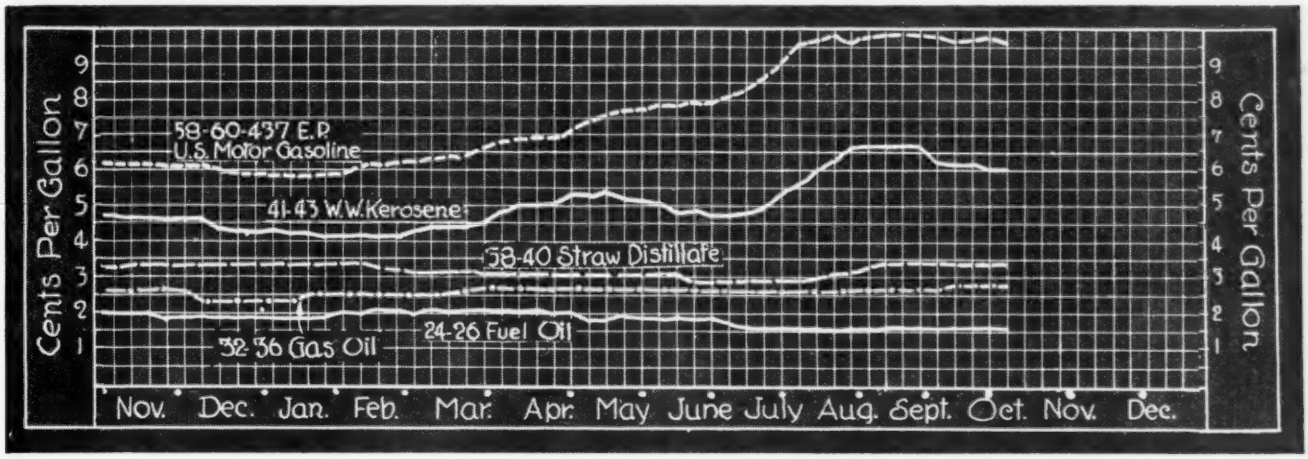
Shipments of stove distillate were almost unchanged at 1,066,000 gallons in spite of the cold wave. Production was held nearly unchanged at 1,453,000 gallons, causing an increase in stocks of 390,000 gallons to 7,225,000 gallons.

Gas oil shipments increased 70 per cent or 4,300,000 gallons to 10,440,000 gallons. Production was increased 26.4 per cent or 1,800,000 gallons to 8,684,000 gallons. Stocks were cut 1,750,000 gallons to 58,391,000 gallons. Oklahoma and Kansas both reported substantial reductions in gas oil storage. In the last four weeks gas oil production has been almost in balance with demand, total stocks have increased only 70,000 gallons in that period.

Fuel oil production was increased 500,000 gallons to 37,326,000 gallons. Shipments meanwhile increased 900,000 gallons to 34,109,000 gallons. Stocks were increased 3,200,000 gallons to 186,403,000 gallons.

SHARON, Pa.—R. V. Turner, treasurer, Pennsylvania Tank Line, has been elected vice-president in charge of operations in Sharon. This promotion is in connection with the transfer of the offices of the president, T. I. Tutt, to Chicago.

Current Prices of Principal Mid-Continent Refined Products



Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

Solutions," J. B. Rather and D. P. Weld, Standard Oil Co. of New York.

"Automatic Viscosimeter," Clifford M. Larson, Sinclair Refining Co.

"Development of the Logarithmic Viscosity Temperature Chart," Neil MacCoull, The Texas Co.

"Methods of Testing Gear Lubricants," C. L. Knopf, Sinclair Refining Co.

"Formation of Acetic Acid in Heat and Pressure Cracking," F. W. Hall and R. deM. Taveau, The Texas Co.

"Treatment of Naphthene Base Petroleum Distillates," G. F. Olsen, General Petroleum Corp.

Group 3—General Topic: Corrosion
(South Ball Room)

Chairman: (To be announced).

Report of Sub-Committee on Production and Pipe Line Corrosion, E. P. Bly, Standard Oil Co. of California.

Report of Sub-Committee on Refinery and Marine Corrosion, H. F. Perkins, Gulf Refining Co.

Report of A. P. I. Research Associate at Bureau of Standards, Gordon N. Scott.

"Accelerated Tests on Paints and Coatings," C. T. Langford, Marland companies.

"Combating the Corrosion of Pressure Stills," W. F. Faragher, Universal Oil Products Co.

2 p. m. Dec. 6

Group 1—General Topic: Business Session of the Division of Development and Production Engineering
(South Ball Room)

(Details given in text of article)

Group 2—General Topic: Refinery Technology: Motor Fuels.
(North Ball Room.)

Chairman: (To be announced).

Two papers covering the results of the Co-operative Motor Fuel Research at the Bureau of Standards (subjects and speakers to be announced).

"The Accuracy of Various Methods of Determining Detonation," Neil MacCoull, The Texas Co.

"Service Testing Methods for Petroleum Products," Alois Krenser, Standard Oil Co. of California.

"Significance of Gum in Gasoline," R. E. Wilson, Standard Oil Co. of Indiana.

Group 3—General Topic: Marketing Problems.
(Grand Ball Room)

Chairman: H. B. Earhart, White Star Refining Co.

"Economics of Marketing Petroleum Products," John D. Gill, Atlantic Refining Co.

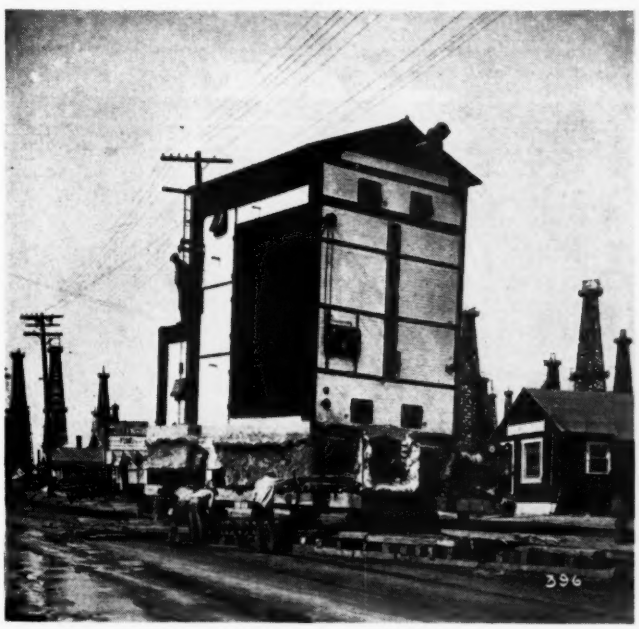
"Marketing Equipment Problems," B. L. Majewski, Shaffer Oil & Refining Co.

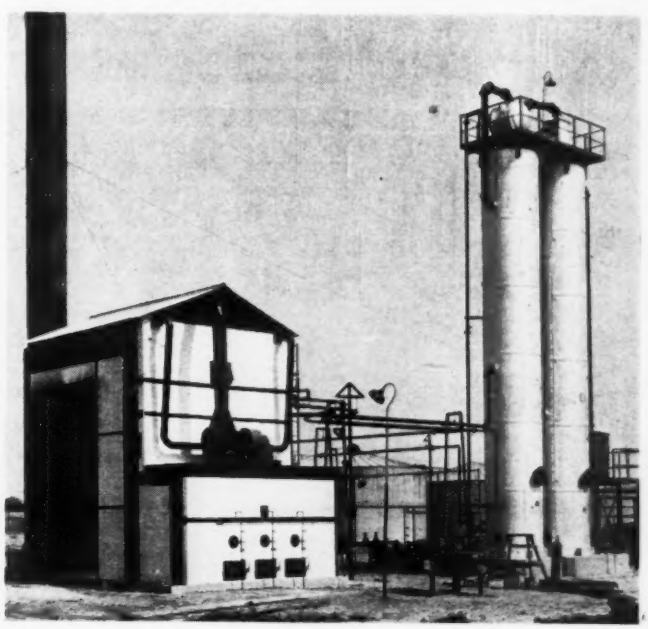
"Credits," H. M. Edinger, Barnsdall Refining Co.

"The Extension of Sales of Asphalts," J. S. Helm, Standard Oil Co. of New Jersey.

"The Present and Potential Market for Oil Fuels for Heating," Trell W. Yocum, Oil Heating Institute.

Moving a Refinery in California



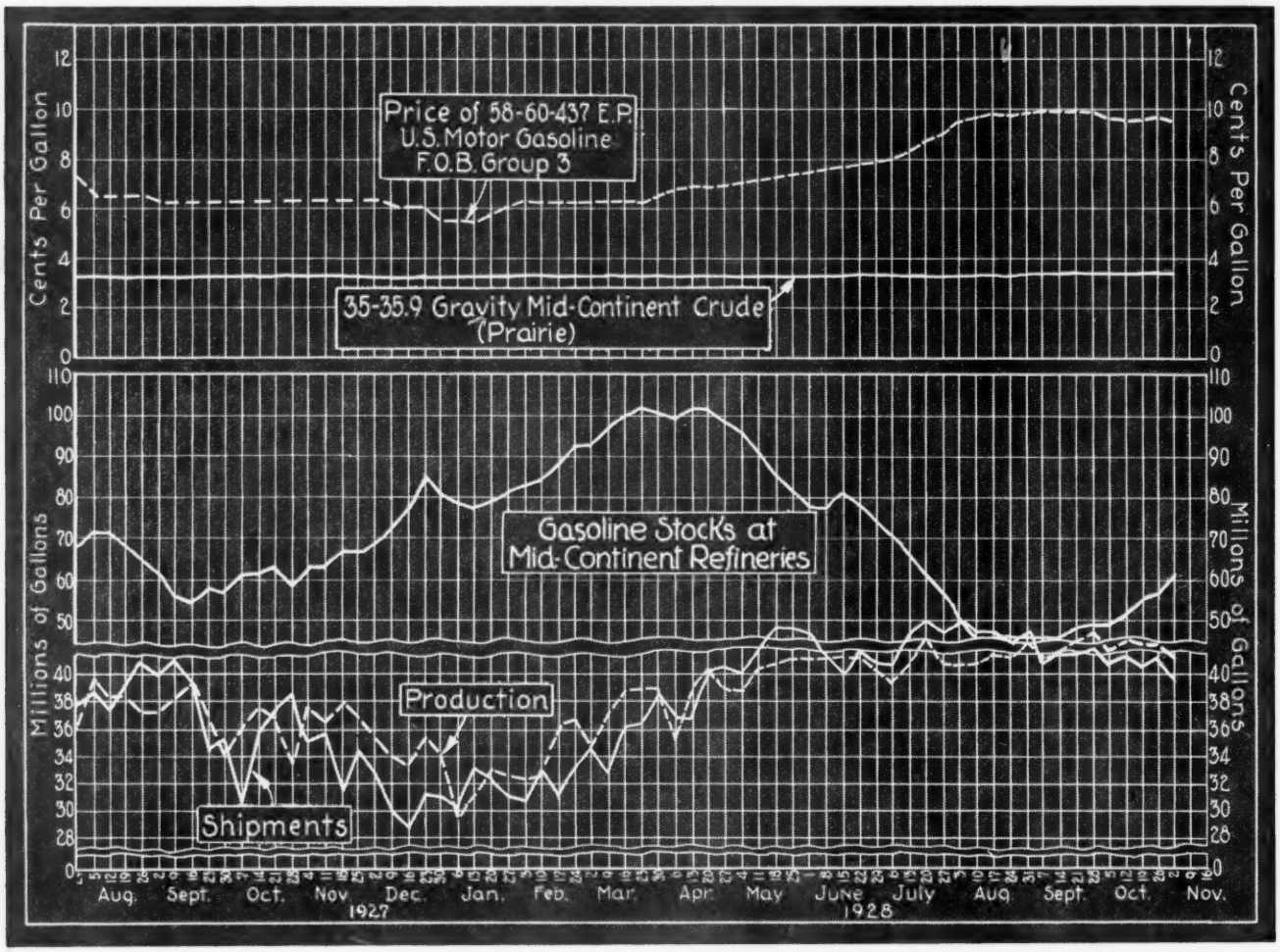


Early in September, a complete Southwestern Engineering Co. refining unit was removed from one location at Long Beach to Hancock Refining Co. plant, a distance of 1.4 miles, it was moved from one side of Signal Hill to another. The tube still and concrete base as seen in the picture weighs 125 tons.

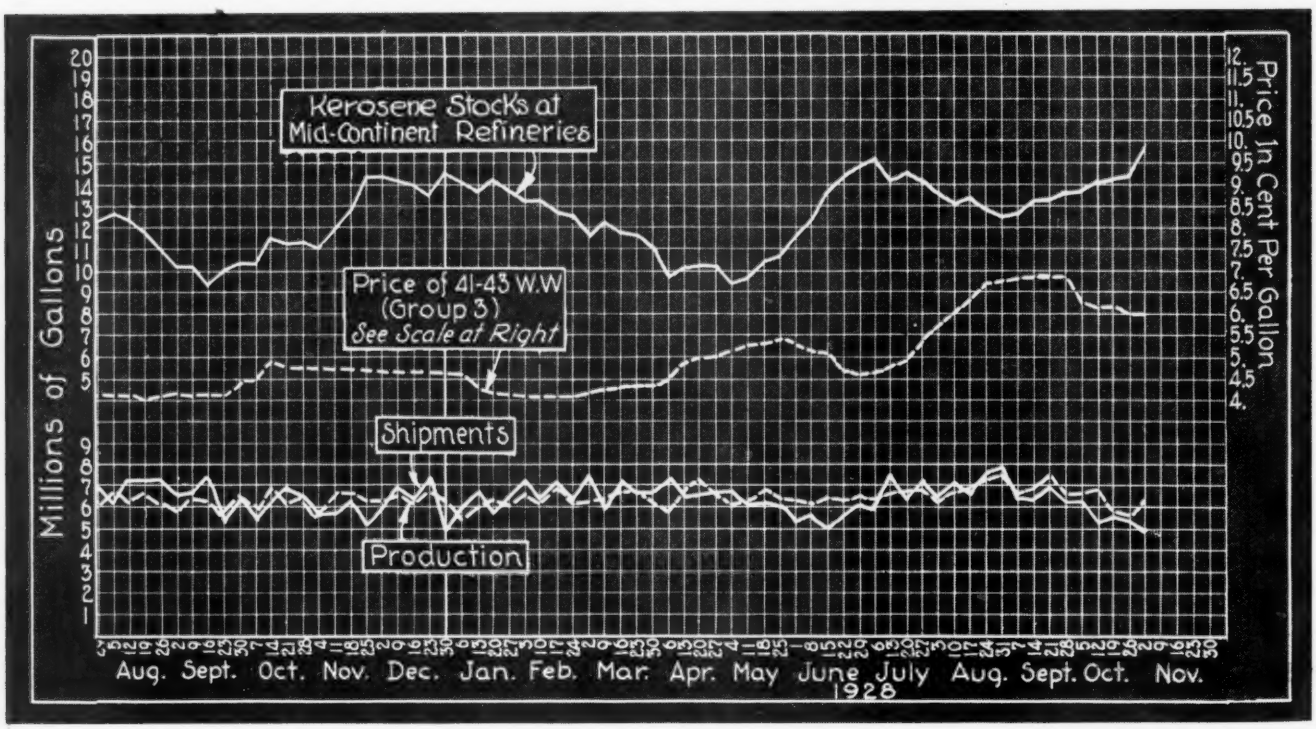
The complete unit, as pictured, consisted of two fractionating towers, tube still, necessary piping, pumps, etc., and has a daily charging capacity of 3500 barrels. The complete unit was set up ready for operation after a most difficult moving job, which occupied more time than had been expected.

Barometer of Mid-Continent Refinery Market—Week Ending November 2

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 81 Plants to National Petroleum News


Price of 58-60-43? E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Cents Per Gallon
Gasoline Stocks at Mid-Continent Refineries
Production
Shipments
Millions of Gallons
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov.
1927
1928

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on the opposite page


Kerosene Stocks at Mid-Continent Refineries
Price of 41-43 W.W (Group 3) See Scale at Right
Shipments
Production
Millions of Gallons
Price In Cent Per Gallon
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct. Nov.
1928

Texas Finances Growth With Stock Issue

NEW YORK, Nov. 2.—The $70,000,000 building program of The Texas Corp. of this year and next will be financed largely by an issue of capital stock to present stockholders on a basis of one share for six shares held of record Nov. 23. The price of the stock will be $40 a share, or almost $30 a share less than the present market value of Texas stock.

The new issue will consist of 1,408,288 shares which will bring $56,331,520 into The Texas Corp.'s treasury. Subscriptions will be payable in two installments of 50 per cent each. One installment will be due Jan. 15, 1929, and the second April 2, 1929. The new stock will participate in the April 2 dividend.

The Texas Corp. is undergoing its greatest expansion since it was organized 27 years ago. The present building program, under the management of President R. C. Holmes, consists of three major trunk pipe line projects: one from west Texas to the Gulf coast; another from the Texas Panhandle to Port Arthur, and the third from Tulsa to Lockport, Ill.

The company has purchased the Landreth properties in west Texas and the principal assets of the Galena-Signal Oil Co. The California Petroleum Corp. early this year was consolidated with it.

Refinery properties are being enlarged and new plants are being built at Cody, Wyo., Amarillo, El Paso and San Antonio, Tex.

The company's last stock increase was a 10 per cent dividend in 1927. Previous to that, there was a 15 per cent subscription in 1921. This is exclusive of the issue of stock in exchange for that of the California Petroleum Corp. With the new issue and allowing for the remaining undeposited shares of California Petroleum, the company will have outstanding 9.858,014 shares, its only capital liability.

* * *

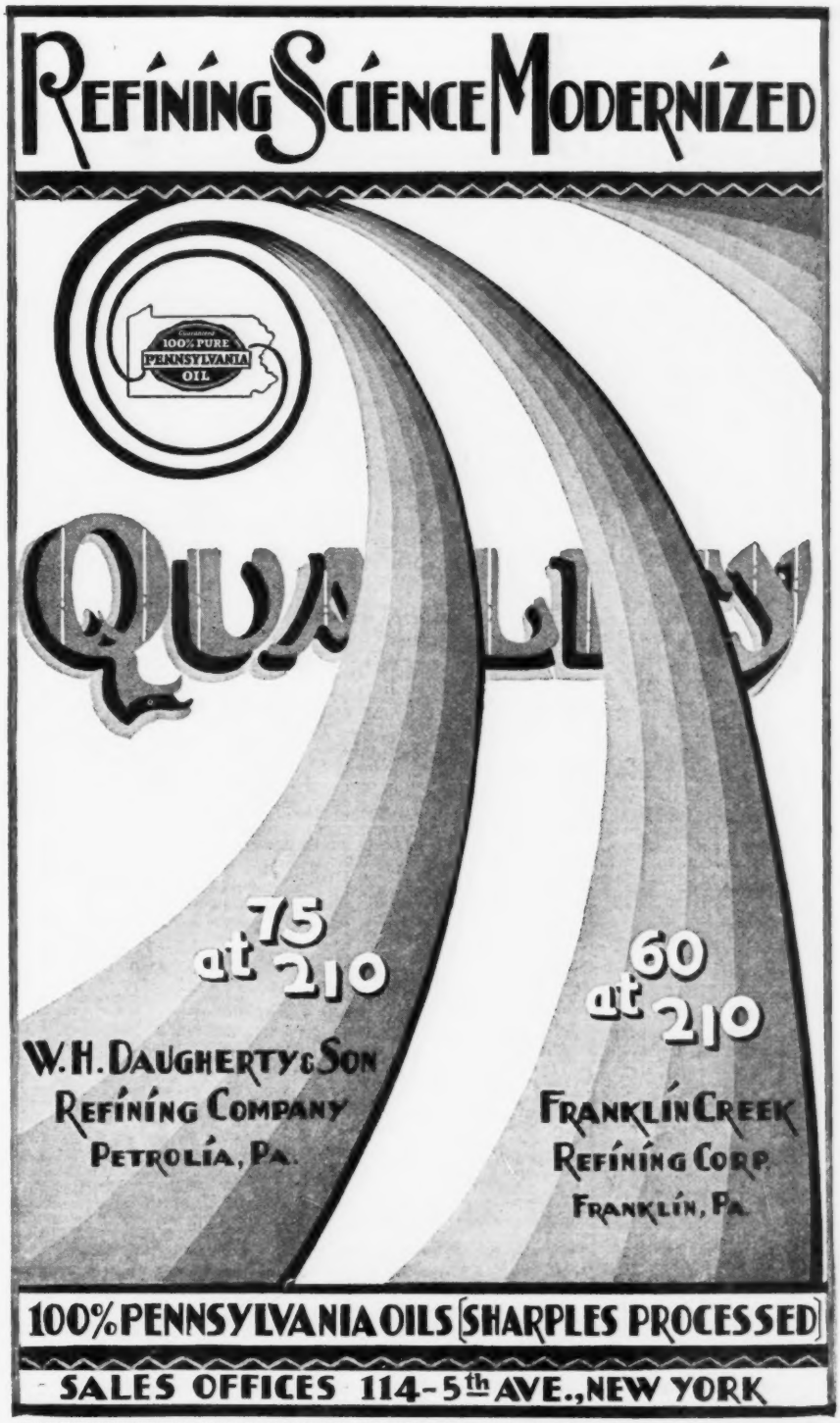
Illinois Pipe Line Co.—Annual dividend rate advanced from $12 to $20 with first semi-annual dividend of $10 payable Dec. 15 to stock of Nov. 12 record.

* * *

Creole Petroleum Corp.—This new Standard of New Jersey subsidiary had production of 38,480 barrels daily in week ended Oct. 26. Properties are being operated by Gulf Oil Corp. subsidiary. Creole's share was 18,928 barrels daily average.

* * *

Pure Oil Co.—Dividend rate doubled to $1 a year. First 25-cent quarterly dividend will be paid Dec. 1 to stock of Nov. 10 record.


REFINING SCIENCE MODERNIZED
100% PURE PENNSYLVANIA OIL
QUALITY
75 at 210
W. H. DAUGHERTY & SON REFINING COMPANY PETROLIA, PA.
60 at 210
FRANKLIN CREEK REFINING CORP. FRANKLIN, PA.
100% PENNSYLVANIA OILS SHARPLES PROCESSED
SALES OFFICES 114-5th AVE., NEW YORK

Gray Treating Towers

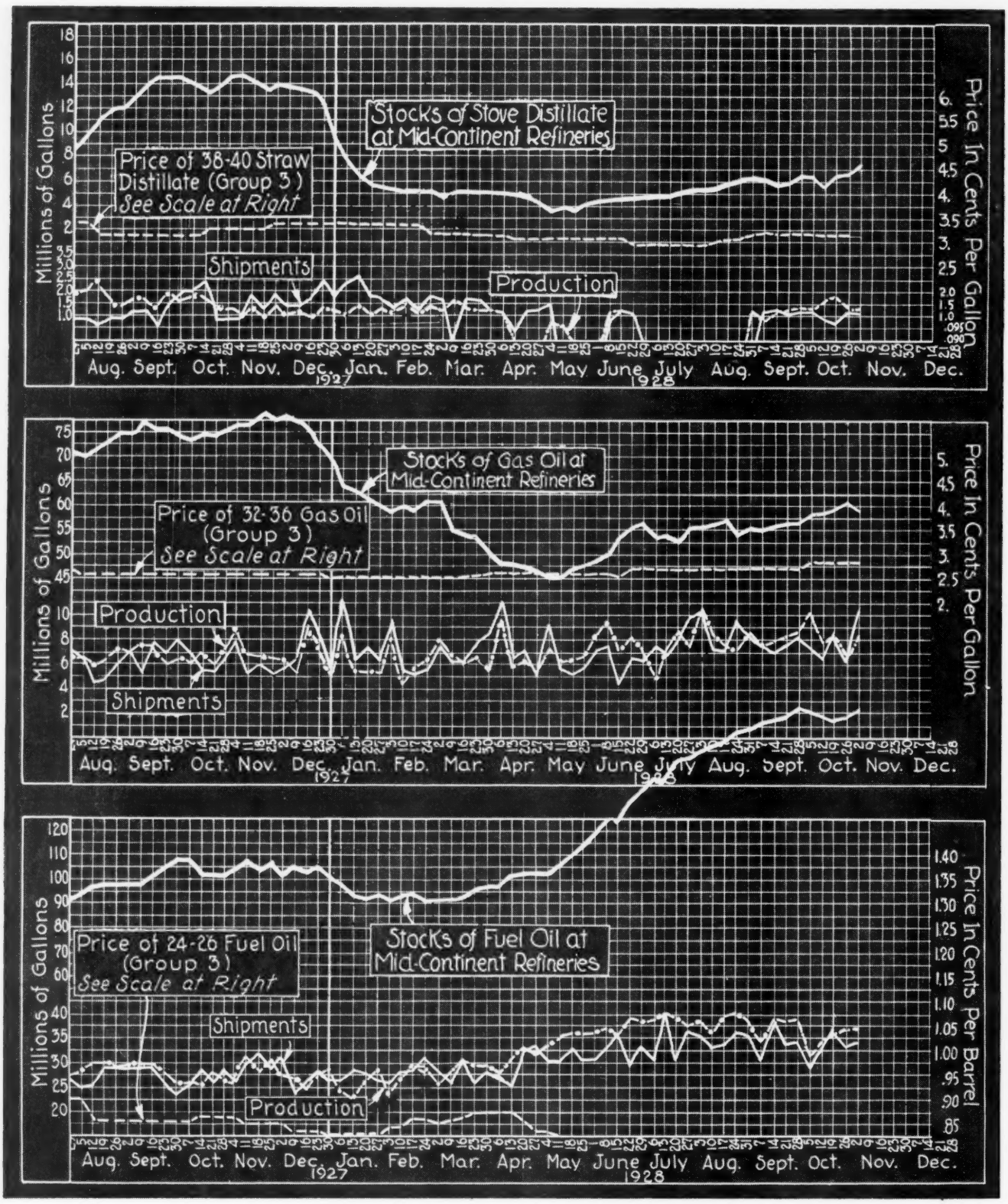
THE M. W. KELLOGG CO.
7 Dey Street - New York

Houston, Texas ..... 1514 Petroleum Bldg.
San Francisco, Cal ..... 444 Market St.
Los Angeles, Cal ..... 329 Petroleum Sec. Bldg.

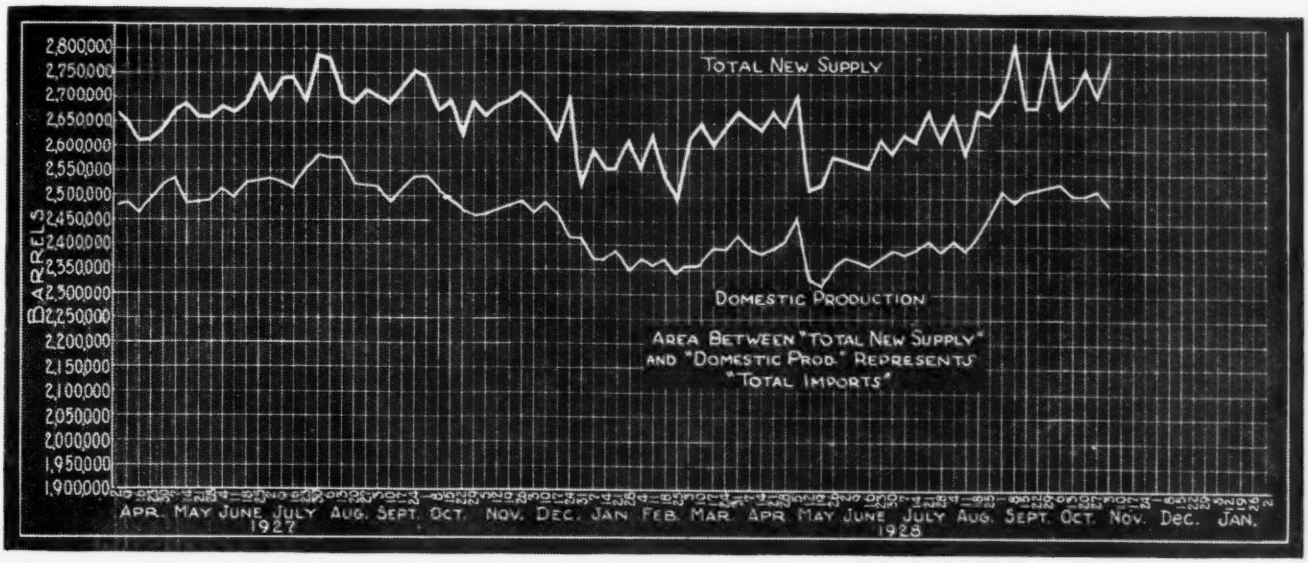
Barometer of Mid-Continent Refinery Market

Week Ending November 2

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 81 Plants to National Petroleum News


Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. 1927 Jan. Feb. Mar. Apr. May June July 1928 Aug. Sept. Oct. Nov. Dec.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Aug. Sept. Oct. Nov. Dec. 1927 Jan. Feb. Mar. Apr. May June July 1928 Aug. Sept. Oct. Nov. Dec.
Millions of Gallons
Price In Cents Per Barrel
Price of 24-26 Fuel Oil (Group 3) See Scale at Right
Stocks of Fuel Oil at Mid-Continent Refineries
Shipments
Production
Aug. Sept. Oct. Nov. Dec. 1927 Jan. Feb. Mar. Apr. May June July 1928 Aug. Sept. Oct. Nov. Dec.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Nov. 3	Oct. 27
Production east of Rockies	**1,866,150**	**1,888,500**
Decrease		**22,350**
Total production in U. S.	**2,497,150**	**2,523,700**
Decrease		**26,550**
Crude oil imports	**280,571**	**213,857**
Increase		**66,714**
Total crude supply	**2,777,721**	**2,737,557**
Increase		**40,164**

OKLAHOMA

	Nov. 3	Oct. 27
North Braman	2,700	2,700
South Braman	1,450	1,450
Blackwell	3,400	3,400
Hubbard	2,400	2,400
Thomas	1,100	1,100
Tonkawa	11,950	11,950
Garber	7,400	7,400
Burbank	26,550	27,000
Osage, outside Burbank	26,500	26,500
Cushing	20,150	20,150
Yale Jennings	7,850	7,850
Davenport	1,750	1,750
Bristow-Slick	20,650	20,700
North Okmulgee	14,500	14,500
Pearson	2,100	2,100
Lyons-Deaner	4,600	4,600
St. Louis	125,100	126,150
Allen Dome	23,350	23,400
Cromwell	8,850	8,850
Papoose	4,000	4,000
Wewoka	5,450	5,450
Seminole	43,300	42,600
Bowlegs	50,400	51,350
Searight	10,950	11,650
Little River	120,500	127,300
Earlsboro	76,900	79,400
Duncan district	7,550	7,550
Graham	4,950	5,000
Fox	1,600	1,600
Healdton	13,850	13,750
Hewitt	9,100	9,300
Scholem Alechem	14,100	14,500
Others	50,450	50,650
Total, Oklahoma	725,450	738,050
Decrease		12,600

KANSAS

Greenwood County	25,500	25,700
Florence-Covert	950	950
Peabody-Elbing	3,250	3,250
Eldorado-Towanda	12,950	13,000
Augusta-Fox-Bush	3,250	3,250
Rainbow Bend	1,400	1,400
Russell	4,100	4,300
Churchill	8,550	8,200
Oxford	7,900	8,150
Others	29,100	29,000
Total, Kansas	96,950	97,200
Decrease		250

NORTH LOUISIANA

Homer	4,150	4,200
Haynesville	5,800	5,800
Caddo, light	9,200	9,000
Caddo, heavy	2,900	3,050
De Soto, Red River	4,000	4,000
Elm Grove	550	550
Bellevue	800	850
Cotton Valley	4,050	4,250
Urania	6,150	6,300
Pleasant Hill	550	550
Total, North Louisiana	38,150	38,550
Decrease		400

ARKANSAS

El Dorado	5,200	5,200
Champagnolle	11,950	11,600
Smackover, light	7,250	7,150
Smackover, heavy	54,700	55,050
Stephens	1,050	1,050
Nevada	1,300	1,350
Lisbon	1,750	1,750
Others	100	100
Total, Arkansas	83,300	83,250
Increase		50

TEXAS (Outside Gulf Coast)

Panhandle District

Hutchinson County	30,600	30,800
Carson County	6,350	6,150
Gray County	28,850	28,650
Wheeler County	800	900
Others	1,600	2,150
Total, Panhandle District	68,200	68,650
Decrease		450

North Texas

Burkburnett	9,700	9,650
Electra	12,800	12,750
Iowa Park and K-M-A	3,700	3,600
Wilbarger	31,950	33,600
Archer County	19,600	19,500
Montague-Cooke	10,250	10,400
Others	600	600
Total, North Texas	88,600	90,100
Decrease		1,500

West Central Texas

Stephens County	7,250	7,000
Fastland-Desdemona	7,100	6,950
Brown County	10,800	10,900
Coleman County	4,150	4,100
Callahan County	3,550	3,500
Shackleford County	10,690	10,700
Young County	8,500	8,600
Throckmorton County	800	800
Palo Pinto County	400	400
Jack County	1,550	1,500
Others	700	700
Total, West Central Texas	55,400	55,150
Increase		250

West Texas

Jones County	3,700	3,850
Mitchell & Scurry Counties	2,750	2,800
Howard County	31,800	31,700
Reagan County	17,400	17,700
Crane & Upton Counties	54,000	55,200
Crockett County	2,800	2,500
Pecos County	71,100	74,000
Winkler County	144,300	146,000
Others	1,400	1,550
Total, West Texas	329,250	335,650
Decrease		6,400

East Central Texas

	Nov. 3	Oct. 27
Mexia	6,550	6,600
Currie	550	550
Richland	500	500
Wortham	1,600	1,600
Corsicana-Powell	9,700	9,800
Nigger Creek	700	700
Others	2,000	2,450
Total, East Central Texas	21,600	22,200
Decrease		600

Southwest Texas

Luling	13,400	13,250
Lytton Springs	1,000	1,000
Somerset	700	700
Laredo District	9,000	9,000
Dale	1,000	1,000
Others	1,750	1,650
Total, Southwest Texas	26,850	26,600
Increase		250
Total, Texas (Outside Gulf Coast)	589,900	598,350
Decrease		8,450

GULF COAST

Coastal Texas

West Columbia	8,050	7,500
Damon Mound	1,900	1,800
Big Creek	2,100	2,200
Boling	2,000	1,600
Blue Ridge	7,900	7,600
Pierce Junction	11,400	11,900
Humble	3,850	3,750
Goose Creek	6,750	6,500
South Liberty	3,900	3,700
Hull	12,000	12,850
Saratoga	1,000	1,000
Batson	1,400	1,400
Barber's Hill	2,750	2,850
Sour Lake	3,250	3,200
Spindletop	39,300	38,600
Orange County	3,800	3,700
Others	4,250	3,000
Total, Coastal Texas	115,600	113,150
Increase		2,450

Coastal Louisiana

	Nov. 3	Oct. 27
Vinton	4,300	4,200
Sulphur Dome	3,600	1,950
Lockport	3,650	3,800
Sweet Lake	2,300	2,200
Evangeline	950	950
East Hackberry	3,300	3,100
Edgerly	800	900
Sorrento Dome	700	700
Others	1,650	1,400
Total, Coastal Louisiana	21,250	19,500
Increase		1,750
Total Gulf Coast	136,850	132,650
Increase		4,200

ROCKY MOUNTAIN

Wyoming

Salt Creek	36,950	10,200
Grass Creek	2,350	2,250
Elk Basin	950	1,050
Big Muddy	2,650	2,750
Lost Soldier	3,850	4,000
Rock Creek	2,600	2,500
Lance Creek	350	350
Oregon Basin	5,500	5,600
Others	6,100	5,200
Total, Wyoming	61,300	63,900
Decrease		2,600

Montana

Cat Creek	1,550	1,500
Sunburst	8,300	8,300
Pondera	1,600	2,000
Others	350	550
Total, Montana	11,800	12,350
Decrease		550

Colorado

Moffat (Craig)	850	1,250
Fort Collins	2,250	2,250
Florence	1,250	1,300
Others	2,500	2,500
Total, Colorado	6,950	7,300
Decrease		350

New Mexico

Hogback	550	500
Artesia	950	950
Rattlesnake	850	300
Others	150	150
Total, New Mexico	2,500	1,900
Increase		600
Total, Rocky Mountain	82,550	84,450
Decrease		2,900

California

Santa Fe Springs	41,500	38,200
Long Beach	189,000	190,000
Huntington Beach	50,500	51,000
Torrance	16,000	16,000
Dominguez	10,000	10,000
Rosecrans	5,000	5,000
Inglewood	28,000	28,000
Midway-Sunset	74,000	74,000
Ventura Avenue	52,500	54,000
Seal Beach	25,500	24,500
Others	139,000	144,500
Total California	631,000	635,200
Decrease		4,200

Offer motorists **extra** value with **OPALINE**.. the **extra** service motor oil .....

REG U.S. PAT OFF.

WHEN you become an Authorized Opaline Dealer, you get the exclusive Opaline method for recommending motor oil. This method assures a motorist the right grade of *Opaline to seal the power in his pistons*—that's an *extra* service which Opaline does—that's an *extra* service you give your customers—an *extra* reason why they should keep coming back to you for gas and oil. May we tell you about this common-sense method of selling *precision* in lubrication?

SINCLAIR REFINING COMPANY, INC.

Also Makers of Sinclair Gasoline and H-C Gasoline

45 NASSAU STREET, NEW YORK

Atlanta Boston Chicago Houston Kansas City

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Refinery - Tank Wagon Markets

National Petroleum News

Exporters Place Orders for Gasolines In Three Mid-Continent Areas

Staff Special
TULSA, Nov. 3

EXPORTERS furnished the major interest in the Mid-Continent the week of Oct. 29-Nov. 3 with purchases of more than 5,000,000 gallons of gasoline, and 1,500,000 to 2,000,000 gallons of kerosene, some of the kerosene to be moved coastwise. This is the third consecutive week that exporters have been actively interested in the gasoline and kerosene markets.

Domestic gasoline and kerosene demand was quiet and general price reductions were made in Oklahoma just prior to Nov. 1.

Natural gasolines lost ground with over the month demand comparatively light. Goods for spot shipment continued relatively scarce in most quarters.

Distillates and gas oils were more active because of a cold wave over much of the Middle West. Prices were steady.

Fuel oils were unchanged both in price and demand. No large volume of over the month buying was reported.

Neutral oils and cylinder stocks were quiet with virtually all Oklahoma plants having made price changes recently. Wax was in fair demand.

Gasolines

The export gasoline purchases were made in Oklahoma, Kansas and Texas. Approximately 1,000,000 gallons of 64-66, 390 end point gasoline was bought from a large Kansas plant for shipment within 30 days. This order was placed Nov. 1. The price was not officially announced but unconfirmed reports indicated it was close to 9.25 cents a gallon.

Another export company bought approximately 1,000,000 gallons of 64-66, 390 e.p. gasoline from Texas refiners at a reported price of 9.375 cents a gallon. This order was expected to move out more rapidly than the one placed in Kansas.

An Oklahoma refiner sold a French buyer a cargo of 64-66, 375 e. p. gasoline for January loading at the Gulf. The cargo was of 60,000 to 65,000 barrels, it was reported.

The export purchases in north Texas gave more firmness to the general market in that area. As long as the refiners there can move their gasoline for export or coastwise they do not make an appreciable amount of U. S. Motor, which invariably moves in competition with the other Mid-Continent areas.

All the Oklahoma refiners except two who for the past several weeks had been quoting 9.75 cents for their 58-60 U. S. Motor grade, announced Oct. 29 that they had lowered their price 0.25 cent. Prices of other grades of gasoline were reduced 0.125 to 0.375 cent a gallon.

Colder weather which has swept across much of the Middle West from the Rocky Mountains region this week has had some effect on gasoline demand, a majority of refiners reported. While it is true jobbers have been buying most of their gasoline on a hand to mouth basis for several weeks, the colder weather has made them even more cautious just as the season of the year when the trade normally expects at least a gradual decline in prices. Several refiners report their contract customers who buy on a market date of shipment basis are spreading out their shipping instructions as much as possible in order to take advantage of any daily or weekly variation in prices.

The colder weather has increased the demand for higher gravity gasolines slightly but not sufficiently to cause any upward trend in prices.

Natural Gasolines

Lower prices for refined gasolines are having some influence on the natural gasoline market despite the fact that stocks held by several of the larger manufacturers are considerably lower than they have been for several months. At present the price of naturals is slightly above the prices existing in Group 3 for U. S. Motor gasoline, and when such a situation exists blenders invariably restrict their operations as much as possible.

One sizable contract which is based on the market date of shipment plan with U. S. Motor as a maximum probably has had some effect on the market the last few weeks. The holder of this contract is in a position to buy naturals on the outside and has taken the sag out of the market several times recently. But it can readily be seen that it is not to his advantage to pay more for the naturals he buys on the outside than he receives for the goods applied on his contract.

Prices accordingly eased off. Little over the month buying was reported. On the other hand goods for spot shipment were reported comparatively scarce. Quotations for periods longer than 10 days appear to be in the neighborhood of the going market for 58-60 U. S. Motor in Group 3, whereas spot sales had been ranging 0.125 to 0.375 cent higher.

One large buyer of naturals recently completed an additional contract with an Oklahoma manufacturer for 250 cars a month. Details of the contract were not made known.

Kerosenes

An Oklahoma refiner sold an exporter 250,000 gallons of 41-43 kerosene around Nov. 1, and a buyer in north Texas has placed orders for approximately 150 cars of kerosene which will be shipped this month. These purchases were for the account of two large companies who will ship the goods to their own distributing stations and coastwise. These purchases have virtually cleaned up the north Texas field and goods from spot shipments were scarce Nov. 3. Prices were strong at 5.75 to 6 cents a gallon for 41-43 water white grade.

Domestic demand in other areas has been quiet. Several companies in Oklahoma who had quoted 6.25 cents

ANTI KNOCK MOTOR FUEL

WICKETT 400

Gravity	54/56 A. P. I.
I. P.	Under 140
E. P.	Under 400
Doctor Test	Negative
Color	Water White and Sun Stable
Odor	Good

BENZOL EQUIVALENT BY MOTOR TEST 35%

This is an excellent motor fuel to be used direct, or as a Benzol or Natural Gasoline blend. Control your high-compression value by Benzol blending, or your volatility by Natural Gasoline blending.

OUR REGULAR PRODUCTS

56/58 U. S. Motor Gasoline
58/60 U. S. Motor Gasoline
60/62 400 E. P. Gasoline
68/70 Aviation Gasoline
High Compression Gasoline
42/44 Kerosene
Zero Furnace Oils
28/32 Gas Oil (Straw)
32/36 Gas Oil (Straw)
Tractor Fuel
Diesel Fuel
16/20 Fuel Oil
Road Oils
Transmission Oils

"We meet equivalent competition"

IMPERIAL REFINING COMPANY

General Offices

TULSA, OKLAHOMA

a gallon for 41-43 w. w. kerosene, Oct. 29 reduced their prices to 6 cents. Shipments remained about on a par with production all week, most Mid-Continent refiners indicated.

Distillates and Gas Oil

No changes were noted in the prices of distillates and gas oil. Demand was somewhat better, especially for immediate shipment, due to the cold wave. Goods were scarcer for spot shipment, with many jobbers now taking out their full contract requirements, which means that a few refiners have no oils to offer on the spot market.

Fuel Oils

The usual first of the month orders for fuel oils for delivery over the month were sent into the field this week, but little new business was reported. Oklahoma refiners have made no changes in their quotations either for prompt or deferred shipment. One refiner who has been selling a small quantity of fuels on the open market said recently that he was working on a plan which would take him entirely out of the market. His fuel is usually zero cold test grade.

Reports received in Tulsa indicated fuel stocks in Arkansas and Louisiana have been piling up somewhat and refiners in that area have been active in the Chicago territory recently in an effort to work off some of the surplus. This report was cited by one Oklahoma refiner as the reason he has not received any volume of inquiries so far this month.

Neutral Oils, Cylinder Stocks

Following the reduction in prices of neutral oils the last week in October Oklahoma refiners have made no further changes in their quotations. Demand remained quiet with competition from other areas cutting into the Oklahoma business to a certain extent.

Wax was quiet at unchanged prices.

Sun Oil Co. to Pay 6% in Stock

NEW YORK, Nov. 3.—Sun Oil Co. has declared a 6 per cent stock dividend payable Dec. 15 to stock of Nov. 26 record. This dividend will require 73,489 shares.

This stock is among 94,069 additional shares listed this week on the New York Stock Exchange. Of the difference in the two amounts 15,105 shares are to be exchanged for common shares of the Sun Shipbuilding & Dry Dock Co., and 5475 are to be issued under an employes' stock purchase plan. The company has authorized sale of 3075 shares to employes at $42 a share and 2400 shares at $50 a share.

Sun last year paid 3 per cent in stock, in 1926 6 per cent, and in 1925 3 per cent, as well as cash dividends regularly.

Chicago Resale Market

Snow and Prices Fall Together

Staff Special

CHICAGO, Nov. 3

THAT winter is near at hand in the Standard of Indiana territory was brought sharply home to the oil trade by reports of snow falling in the Dakotas, Nebraska, Kansas, Iowa, Minnesota and Wisconsin. Gasoline consumption was also hampered by the rains which were general over the southern and central portions of the territory. In spite of these drawbacks most Chicago marketers and refiners reported a steady demand for U. S. Motor gasoline. The bulk of this demand was from contract buyers.

Reduction in spot gasoline prices by all of the major refiners, who have been holding U. S. Motor at 9.75 cents, added interest to the situation. On Oct. 29 and 30 these refiners reduced their spot price to 9.50 cents. Practically all of them also reduced the higher gravities of gasoline .125 to .25 cent.

This makes the first general reduction by the leading refiners since the spot tank car price started its upward climb in January of this year. The OILGRAM records show a steady advance in price lasting from January to the middle of August when the 9.75 cent price was general among both refinery and marketers. Since August the larger refiners have held their price at 9.75 cents, while the smaller refiners and the marketers have been selling from 9.25 cents up to 9.75 cents.

Although the high range of the spot market dropped, no change was apparent in the low level, which remained at 9.25 cents all week. Marketers reported it was no easier to buy U. S. Motor gasoline for resale at 9 cents than it was last week and as yet no sales were reported under 9 cents. A few sales to jobbers at 9.125 cents were reported but they were very much in the minority.

Demand for the higher gravities of gasoline was not very heavy this week. Practically all of the larger refiners lowered their quotations .125 to .25 cent on these grades. Exporters were in the market for goods and this was expected to help the domestic situation somewhat. The 60-62, 437 e.p. gasoline moved at 9.50 to 9.75 cents most of the week after opening at 9.625 to 9.875 cents. Gasoline of 60-62, 400 e.p. opened at 9.875 to 10.125 cents and dropped to 9.75 to 10 cents on Oct. 30, where it remained over the week. Most sales of 64-66, 375 e.p. were at 10.50 to 10.75 cents except on Oct 29 when range was 10.625 to 10.875 cents.

Kerosene enjoyed only a normal seasonal demand in most quarters. Prices, however, were generally unchanged over the week. The bulk of movement of the 41-43 w.w. grade was at 5.75 to 6 cents.

Distillates were in steady demand all week. This demand coupled with comparative scarcity of good material resulted in a fractional price advance by most sellers. Distillate is proving a more popular fuel among home burner owners this year than in previous ones, several sellers reported. The 38-40 straw opened at 3.25 to 3.375 cents and moved the rest of the week mostly at 3.375 cents flat. Sales were also reported at 3.50 cents.

Zero gas oils and high gravity fuel oils were in good demand this week, while higher cold test gas oils and heavy fuels were not moving very well. Industrial concerns were in market for their usual monthly requirements and they reported paying approximately the same prices for their November goods as they paid in October. One refiner reported an extra good movement on 32-36 dark zero gas oil.

Gas oil prices were unchanged over the week. Ordinary 32-36 dark gas oil moved mostly at 2.50 to 2.625 cents; 32-36 dark zero at 2.75 cents, with sales also at 2.875 cents and the 32-36 straw zero moved at 2.875 to 3 cents.

Only slight changes were apparent in fuel oil prices this week. The 28-30 zero fuel moved at $0.875 to $0.925 and ordinary 28-30 at $0.825 to $0.85. Most sales of 24-26 fuel oil were at $0.65 to $0.675. The 18-22 low sulfur fuel was at $0.60 to $0.65 on Nov. 2 and 3 and moved at $0.575 to $0.65 up to then. High sulfur 18-22 fuel continued to move mostly at $0.525 to $0.55.

Temperatures will be above normal most of next week in Standard of Indiana territory, while there will be precipitation at the beginning and again at the close of the week, says the official Chicago weather forecast.

Zero Lube Demand Picks Up

HOUSTON, Nov. 3.—Colder weather is bringing demand for zero cold test lubricants of the lighter viscosities. Generally, however, there has been little change in the Gulf Coastal market over the past few weeks. Increased October business failed to bring price advances.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Nov. 5	Prices Oct. 29	Prices Oct. 22
52-54 Naphtha	10.00 –10.50	10.25 –10.50	10.50 –11.25
54-56 Naphtha	10.25 –10.75	10.25 –10.75	10.50 –11.25
58-60 U.S. Motor 437 e.p.	10.75 –11.50	11.00 –11.50	11.00 –11.50
60-62 400-410 e.p. gasoline	11.50 –12.00	11.50 –12.50	11.50 –12.50
64-66 390 e.p. gasoline	11.75 –13.50	12.00 –13.50	12.00 –13.50
68-70 Str-run gas. 350-360 e.p.	13.25 –14.00	13.25 –15.00	13.50 –13.75
OHIO (Quotation of S. O. Ohio.)			
58-60 U.S.Motor, delivered in Ohio, tax to be added	12.25	12.50	12.50
OKLAHOMA			
48-50 450 e.p. naphtha	†8.75	†8.75	†8.75 – 9.00
50-52 450 e.p. naphtha	†8.75	†8.75	†8.75 – 9.00
56-58 450 e.p. gasoline	9.00 – 9.25	9.00 – 9.25	9.25 – 9.375
58-60 450 e.p. gasoline	9.25 – 9.50	9.25 – 9.50	9.375– 9.50
64-66 390 e.p. gasoline	10.125–10.375	10.125–10.375	10.25 –10.375
68-70 350-360 e.p. gasoline	10.75 –11.25	10.75 –11.25	11.00 –11.25
OKLAHOMA (Weighted Average Prices)			
58-60 U.S. Motor, 437 e.p.	9.5573	9.5772	9.7331
60-62 437 e.p. gasoline	9.7625	9.9000	9.8750
60-62 400 e.p. gasoline	10.1875	10.0625	10.1875
64-66 375 e.p. gasoline	10.9375	11.0000	10.8333

In this issue, all above weighted average prices are effective on Monday on the dates shown at the top of the columns.

KANSAS (F. O. B. refinery Kansas destination)			
58-60 U.S. Motor 437 e.p.	9.75	9.75 – 9.875	9.75 – 9.875
60-62 400 e.p. gasoline	10.25 –10.50	10.25 –10.50	10.25 –10.50
64-66 375 e.p. gasoline	11.00	11.00 –11.125	11.00 –11.125
NORTH TEXAS			
48-52 450 e.p. naphtha	†8.75	†8.75	†8.75
56-58 450 e.p. gasoline	†8.75	†8.75	†8.75
58-60 450 e.p. gasoline	†8.75 – 9.00	†8.75 – 9.00	†8.75 – 9.00
58-60 U.S. Motor 437 e.p.	9.25	9.25	9.25
60-62 400 e.p. gasoline	9.625	9.625	9.625
64-66 390 e.p. gasoline	9.75 – 9.875	9.75 – 9.875	9.75
64-66 375 e.p. gasoline	10.125–10.25	10.125–10.25	10.00 –10.125
68-70 350-360 e.p. gasoline	10.75 –11.00	10.75 –11.00	10.75
NORTH LOUISIANA (N. La., Ark. and Miss. destination)			
58-60 U.S. Motor gasoline	9.25 – 9.50	9.50	9.50
ARKANSAS (Arkansas destination only)			
56-58 450 e.p. gasoline	9.00	9.00	9.00
58-60 450 e.p. gasoline	9.25	9.25	9.25
58-60 U.S. Motor 437 e.p.	9.25 – 9.50	9.50	9.50
‡CALIFORNIA			
54-58 U.S. Motor 437 e.p.	9.00 –12.50	9.00 –12.50	9.00 –12.50
58-61 U.S. Motor 437 e.p.	10.00 –13.50	10.00 –13.50	10.00 –13.50
42-45 Eng. dis. 445-480 e.p.	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00

‡3c tax to be added to California gasoline prices if used in state.

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	*9.50 – 9.625	10.125–10.25	9.625
Grade A, 72-79.9, 90% Recovery	*9.50 – 9.625	10.125–10.25	9.625
Grade BB, 84-92, 85% Recovery	*9.50 – 9.625	10.00	9.625
Grade B, 76-83.9, 85% Recovery	*9.50 – 9.625	10.00	9.625
Grade C, 80-92, 78% Recovery	*9.50 – 9.625	10.00	9.625
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	9.75 – 9.875	10.25	9.625– 9.75
Grade A, 72-79.9, 90% Recovery	9.75 – 9.875	10.25	9.625– 9.75
Grade BB, 84-92, 85% Recovery	9.625– 9.75	10.00 –10.125	9.625
Grade B, 76-83.9, 85% Recovery	9.625– 9.75	10.00 –10.125	9.625
Grade C, 80-92, 78% Recovery	9.625– 9.75	10.00 –10.125	9.625
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†10.25	†10.50 –10.75	†10.25
Grade BB	†10.00	†10.50	†10.00 –10.25
Grade C	†10.00	†10.50	†9.75
CALIFORNIA			
75-85, 375-390 e.p. blend	7.00 – 7.50	5.50 – 7.00	7.00 – 7.50

MOTOR FUEL BLENDS

OKLAHOMA			
64-66 Blend 437 e.p.	9.00 – 9.25	9.00 – 9.25	9.00 – 9.25

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	7.25 – 7.75	7.25 – 8.00	7.375– 8.00
46 w.w. kerosene	7.75 – 8.25	7.75 – 8.50	7.75 – 8.50
47 w.w. kerosene	8.125– 8.50	8.125– 8.50	8.125– 8.875
300 mineral seal	7.25 – 7.75	7.25 – 7.75	7.25 – 7.75

†Prices nominal ††Only one refiner quoting *Quotations only

OKLAHOMA	Prices Nov. 5	Prices Oct. 29	Prices Oct. 22
41-43 w.w. kerosene	6.00	6.00	6.00 – 6.125
42-44 w.w. kerosene	6.50	6.50	6.50 – 6.625
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	6.25 – 6.50	6.50 – 6.75	6.50 – 6.75
42-44 w.w. kerosene	6.75	6.75 – 7.00	6.75 – 7.00
NORTH TEXAS			
40-42 w.w. kerosene	5.625– 5.75	5.625– 5.75	5.625– 5.75
41-43 w.w. kerosene	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
NORTH LOUISIANA (N. La., Ark. and Miss. destination)			
41-43 w.w. kerosene	6.50 – 6.75	6.75	6.75
ARKANSAS (Arkansas destination only)			
42-44 kerosene	6.75 – 7.00	7.00	7.00
CALIFORNIA			
38-40 w.w. kerosene	6.25 – 7.00	6.25 – 7.00	6.25 – 7.00

NEUTRAL OIL

PENNSYLVANIA Vis.			
	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	28.00 –30.00	28.00 –30.00	28.50 –31.00
180 No. 3 Assoc. Filt.	25.50 –27.00	25.50 –27.00	25.50 –28.00
150 No. 3 Assoc. Filt.	21.50 –23.50	22.00 –23.00	22.00 –24.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.50 – 9.00	7.50 – 9.00	7.50 – 9.00
36 Min. Neut., 300-305 Flash	6.75 – 7.75	6.75 – 7.75	6.75 – 7.75
****OKLAHOMA**			
Vis. Color	(Viscosity at 100°F.)		
100—No. 2	5.50 – 6.50	5.50 – 6.50	6.00 – 6.50
150—No. 3	7.50 – 8.50	7.50 – 8.50	8.00 – 8.50
150—No. 4	6.50 – 7.50	6.50 – 7.50	8.00 – 8.50
180—No. 3	8.50 – 9.50	8.50 – 9.50	9.00 –10.00
180—No. 4	8.75 – 9.75	8.75 – 9.75	9.50 – 9.75
180—No. 5	8.50 – 9.50	8.50 – 9.50	9.25 – 9.75
200—No. 3	9.50 –10.25	9.50 –10.25	9.50 –11.00
200—No. 4	9.25 –10.00	9.25 –10.00	9.50 –10.75
200—No. 5	8.50 – 9.50	8.50 – 9.50	8.50 –10.00
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	13.00 –13.50	13.00 –13.50	13.50 –14.00
240—No. 4	12.00 –13.00	12.00 –13.00	13.25 –13.50
240—No. 5	11.00 –13.00	11.00 –13.00	12.00 –13.00
280—No. 3	14.00 –15.50	14.00 –15.50	15.50 –16.50
280—No. 4	13.00 –14.50	13.00 –14.50	15.25
280—No. 5	12.00 –14.00	12.00 –14.00	14.00 –15.00
300—No. 5-6	15.00 –17.00	15.00 –17.00	17.00
GULF COASTAL			
Vis. Color	(Viscosity at 100°F., pour test 0)		
100—No. 2 Unfilt. Pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
200—No. 3 Unfilt. Pale	10.00 –10.75	10.00 –10.75	10.00 –10.75
300—No. 3 Unfilt. Pale	11.00 –11.75	11.00 –11.75	11.00 –11.75
500—No. 3½ Unfilt. Pale	12.50 –13.50	12.50 –13.50	12.50 –13.50
750—No. 4 Unfilt. Pale	15.50 –16.00	15.50 –16.00	15.50 –16.00
200—No. 5½ Red Oil	8.25 – 8.75	8.25 – 8.75	8.25 – 8.75
300—No. 5½ Red Oil	9.00 – 9.75	9.00 – 9.75	9.00 – 9.75
500—No. 6 Red Oil	10.50 –11.25	10.50 –11.25	10.50 –11.25
750—No. 6 Red Oil	13.50 –14.00	13.50 –14.00	13.50 –14.00
CALIFORNIA			
Vis. Color	(Viscosity at 100°F.)		
100—No. 3	9.75 –10.00	9.75 –10.00	9.75 –10.00
200—No. 3	11.50 –12.00	11.50 –12.00	11.50 –12.00
300—No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
450—No. 3	15.50 –16.00	15.50 –16.00	15.50 –16.00
550—No. 3	16.50 –17.00	16.50 –17.00	16.50 –17.00
600—No. 3	17.00 –17.50	17.00 –17.50	17.00 –17.50
200—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
300—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
400—No. 5	14.00 –14.50	14.00 –14.50	14.00 –14.50
500—No. 5	15.00 –15.50	15.00 –15.50	15.00 –15.50
600—No. 5	16.00 –16.50	16.00 –16.50	16.00 –16.50
700—No. 7	18.00 –18.50	18.00 –18.50	18.00 –18.50

CYLINDER STOCKS

****OKLAHOMA**			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	27.00	27.00	26.00
600 E. St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	7.50 –10.00	7.50 –10.00	8.00 –10.00
600 St. Ref. Dark Green	6.00 – 8.00	6.00 – 8.00	6.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	(1-inch Immersion Test)		
600 Steam Refined	14.00 –15.00	13.50 –15.00	14.00 –14.75
650 Steam Refined	15.00 –18.00	15.00 –18.00	15.50 –17.00
600 Flash	19.50 –21.50	19.00 –21.00	19.00 –20.00
625 Flash	29.00	29.00	27.50 –29.00
600 Warren E.	19.50	19.00 –19.50	17.50 –19.00
600 Oil City E.	17.00 –19.00	17.00 –19.00	17.00 –18.875
600 D Filtered	24.00 –24.50	24.00	24.00
Cold Test Stock, 40-50p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	‡33.50 –35.00	‡33.50 –35.00	34.50 –36.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	‡‡32.00–33.00	‡‡32.00–33.00	32.50 –34.00

‡Three refiners quoting. ‡‡Two refiners quoting.

****Represents both sales and quotations**

SKELLY

QUALITY HAS NO SUBSTITUTE

Ready to Go

STEP on the starter and get action *right now* . . . then press down the accelerator for *more action*, smooth, steady, without spit or sputter.

Skelly *Refractionated* Gasoline is ready to go—whatever the weather. Winter *tests* gasoline. If your motorists are not getting quick response these crisp mornings, urge them to change to Skelly *Refractionated* Gasoline. It has the advantages of complete gasification, quick start, speedy acceleration.

Write, wire or phone Skelly Oil Company, Eldorado, Kans., Tulsa, Kansas City, Omaha, Minneapolis.

SKELLY *Refractionated* GASOLINE

860

REFINED BY THE MAKERS OF TAGOLENE MOTOR OIL

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

WAX

PENNSYLVANIA	Prices Nov. 5	Prices Oct. 29	Prices Oct. 22
Per pound, New York			
122-124 white crude scale	5.25 – 5.50	5.00 – 5.50	5.25 – 5.50
124-126 white crude scale	5.25 – 5.50	5.25 – 5.50	5.50
OKLAHOMA			
**124-126 White Crude Scale	5.00 – 5.125	5.00 – 5.125	5.125
CALIFORNIA			
White crude scale, per pound, ton lots	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil	4.50 – 5.00	4.50 – 5.00	4.50 – 5.00
30-34 fuel oil	4.25 – 4.50	4.25 – 4.375	4.25 – 4.375
28-32 fuel oil	4.25 – 4.50	4.25 – 4.375	4.25 – 4.375
OKLAHOMA			
38-40 straw distillate	3.375– 3.50	3.25 – 3.50	3.25 – 3.50
36-38 straw distillate	3.25 – 3.375	3.125– 3.25	3.125– 3.25
32-36 gas oil, straw	†2.625– 2.875	†2.625– 2.875	†2.625– 2.875
32-36 dark gas oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
28-30 fuel oil (in bbls.)	$0.85 – 0.90	$0.85 – 0.90	$0.85 – 0.90
26-28 fuel oil (in bbls.)	$0.675– 0.725	$0.675– 0.725	$0.675– 0.725
24-26 fuel oil (in bbls.)	$0.65 – 0.675	$0.65 – 0.675	$0.65 – 0.675
22-26 fuel oil (in bbls.)	$0.575– 0.625	$0.575– 0.625	$0.575– 0.625
18-22 fuel oil (in bbls.)	$0.575– 0.60	$0.575– 0.60	$0.575– 0.60
16-18 fuel oil (in bbls.)	$0.55	$0.55	$0.55
14-16 fuel oil (in bbls.)	$0.55	$0.55	$0.55
KANSAS (F. O. B. refinery Kansas destination)			
38-40 straw distillate	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
36-38 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
32-36 gas oil	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 fuel oil	*$0.75 – 0.80	*$0.75 – 0.80	*$0.75 – 0.80
18-22 fuel oil	*$0.70	*$0.70	*$0.70
NORTH TEXAS			
38-40 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
32-36 gas oil, cracked	2.375– 2.50	2.375– 2.50	2.375– 2.50
32-36 St. reduced gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
24-26 fuel oil (in bbls.)	$0.55	$0.55	$0.55

GULF COASTAL	Prices Nov. 5	Prices Oct. 29	Prices Oct. 22
Fuel (in bbls.)	$1.20 –$1.25	$1.20 –$1.25	$1.20 –$1.25
Gas oil	4.375– 4.50	4.375– 4.50	4.375– 4.50
NORTH LOUISIANA (N. La., Ark. and Miss. destination)			
32-36 gas oil, dark	3.00	3.00	3.00
32-36 gas oil, straw	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
16-20 fuel oil (in bbls.)	$0.70	$0.70	$0.70
ARKANSAS (Arkansas destination only)			
32-36 gas oil, straw	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
32-36 gas oil	3.00	3.00	3.00
28-32 gas oil	2.75	2.75	2.75
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (per bbl.)	$0.65 –$0.70	$0.65 –$0.70	$0.65 –$0.70
14-18 Bunker oil (per bbl.)	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00
30-34 gas oil (per bbl.)	$1.00 –$1.20	$1.00 –$1.20	$1.00 –$1.20
27 Plus Diesel oil (per bbl.)	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f.o.b. refinery. In tank cars ½c to ¾c per pound less.)		Two refiners quoting.	
Snow White	8.25 – 8.625	8.25 – 8.625	8.625
Lily White	7.25 – 7.625	7.25 – 7.625	7.625
Cream White	6.50 – 6.625	6.50 – 6.625	6.625
Light Amber	3.625– 3.75	3.625– 3.75	3.625
Amber	3.25 – 3.375	3.25 – 3.375	3.375
Red	3.00 – 3.125	3.00 – 3.125	2 375– 3.125

PETROLEUM COKE

****OKLAHOMA**

(Per ton in car lots)

Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

†Prices Nominal ††Only One Refiner Quoting *Quotations only **Represents Both Sales and Quotations

California Refinery Market

Tank Car Gasoline is Steady

LOS ANGELES, Nov. 3

THE California tank car gasoline prices are unchanged but there is a smaller movement to out of state points at the low figure, with most of this gasoline moving at 9.50 to 10 cents. The tank car movement within the state continues to hold at 11.50 to 13.50 cents without tax.

Gasoline for export is still quoted at 8 to 8.50 cents with more sold at the lower figure than at the higher. This does not mean that all refineries are making the same price but that one or two refiners will sell at 8 to 8.25 cents while some of the others are asking 8.50.

There is a feeling in marketing circles that it will not be necessary to shave present gasoline prices this winter because it is believed here U. S. Motor has about reached its lowest level at the Gulf.

Regardless of the fact that the production of refinable crude oil continues on an even keel in California, the demand is sufficiently strong for some to offer premiums ranging from 10 to 20 cents a barrel. This situation probably will not continue more than another 60 days as the Santa Fe Springs field will reach a high production the latter part of January, making more spot light crude available.

Natural gasoline is steady at 7 to 7.50 cents spot. Production continues to average with previous months but probably better than 90 per cent of the production of the state is under contract, leaving little spot on the market.

There is no change in the fuel oil quotations. The movement both in tank car and export is encouraging and marketers doubt there will be a break in this market during the winter.

There are no changes in other products.

Tidal Osage Oil Co.—Recent special dividend of $2.50 a share was made because company at present is not investing in additional oil leases. The cash and surplus position warranted a special payment, directors decided.

Carib to Distribute Colon Oil Stock

NEW YORK, Nov. 3.—Carib Syndicate, Ltd., will distribute to its stockholders of Nov. 10 record 525,000 shares of Colon Oil Corp. stock which represent a substantial part of Carib's holdings in Colon which controls the Vigas concession in Venezuela.

After giving effect to this distribution, the principal assets of Carib Syndicate, Ltd., will be the Colombian interests of the company, which consists of equities in Colombian Petroleum Co. (a holding company with respect to the Barco properties), a controlling interest in Equatorial Oil Co. and the Honda Leaseholds.

Application has been made to secure trading privileges for Colon Oil Corp. stock on New York Curb Market.

Noble Heads Coast Geologists

(By Telegraph)

LOS ANGELES, Nov. 5.—Earl Noble, Union Oil Co. of Calif., was elected president of the Pacific Section of the American Association of Petroleum Geologists at its fifth annual session held in Los Angeles Nov. 1 and 2. He succeeds C. R. McCollom. E. M. Butterworth, Standard Oil Co. of California, was elected secretary treasurer, succeeding B. W. Gillespie.

Pennsylvania Market

Gasoline Demand Is Good

CLEVELAND, Nov. 5.—Gasoline demand this autumn has exceeded that for the corresponding time last year, many western Pennsylvania refiners report. There has not been large buying, but a sufficient amount of orders have been on hand to absorb current production.

Many refiners report that this increased demand has prevented the running of gasoline to storage as yet. One refiner reported it would be approximately the first of the year before he would begin to fill storage.

Spot quotations on U. S. Motor gasoline were 11 to 11.50 cents last week, with some refiners quoting 10.75 cents today. Higher gravity gasoline quotations generally were unchanged.

The bright stock and wax situations were unchanged. Bright stocks were scarce. Many refiners are out of the market until the middle of November or later following the large export buying late in October. Wax also is scarce with 122-124 and 124-126 quoted generally at 5.25 to 5.50 cents.

Cylinder stocks remained in good demand last week at unchanged quotations. Kerosene quotation ranges have not changed. Some refiners who were asking the top of the market have reduced their prices.

Wax Market

Market More Active

NEW YORK, Nov. 3.—The New York wax market was more active the past week which resulted in a reversal in the trend of prices. The action of the market more or less bore out opinions which the trade has held quite generally for the past six weeks. A lull in foreign demand would be the occasion for a good deal of distress selling while, on the other hand, even nominal interest from abroad would tighten the market considerably and start prices upward again.

The demand at New York this week came largely from foreign consumers. Several small lots of white crude scale sold the forepart of the week at 5 cents a pound for prompt delivery and the sale of 200 tons, 100 tons for November delivery and 100 tons for December delivery, also was reported at the same price. Foreign buyers were freely bidding 5 cents at the close of the week with most dealers asking 5.125 to 5.25 cents and refiners, 5.25 cents and up.

There was routine demand for fully refined grades and prices in this section of the market remained firm. Elimination of the lows of last week's price ranges also was reported.

Prices at New Orleans were generally steady with demand a shade more active.

White Eagle's Sales Grow Steadily

CLEVELAND, Nov. 5.—Steady gain in gasoline sales by White Eagle Oil & Refining Co. is reported by L. L. Marcell, president. Sales at the company owned and controlled stations amounted to 20,000,000 gallons in 1920 and this year will exceed 90,000,000 gallons, Mr. Marcell recently informed stockholders.

Sept. 30 the company owned 419 bulk stations and 232 service stations and leased 264 more, making a total of 915 bulk and service stations. The company claims, with its stations and several thousand pumps outside the stations, almost complete coverage in Kansas, Colorado, North Dakota, South Dakota and Minnesota, and representative coverage in Wisconsin, Missouri, Iowa, Nebraska, Montana, Wyoming and Utah.

Early this year a specialty plant was completed at its Augusta, Kans., refinery. These products are being marketed: Petrosol, a cleaners' naphtha; White Eagle Solvent, a Stoddard solvent; aviation gasoline; special kerosene; T-O-S, a spot remover; Lix, a fly spray; pocket lighter fuel, and hilite, a special high gravity gasoline.

Its crude production is averaging 2400 barrels a day, or about one-sixth the volume required by its refineries at Augusta, Fort Worth, Tex., and Casper, Wyo.

Jobber Heads Fund Drive

TULSA, Nov. 5.—Ellis H. Wiet, president of the Harvey Young Oil Co., pioneer Tulsa jobbing company, has accepted the task of heading Tulsa's annual Community Fund campaign this year. As director-general he will manage a large number of soliciting teams seeking to raise $375,000 for Tulsa's 1929 charities. The campaign will be conducted during the week of Nov. 19-24.

D. W. Moffitt, vice president of the Mid-Continent Petroleum Corp., is president of the Tulsa Community Fund which disburses the money raised and collects pledges made in the annual campaigns.

Liquidating YOUR Business

Looking ahead, some thoughtful observers see a period of keen competition among chain operators.

They also see an opportunity at the present time to liquidate their business and turn their marketing problems and worries over to some one else while they take a breathing spell.

Most successful business men fail to realize until it is too late that profitable opportunities to liquidate do not come "on order" but must be given consideration at the time the opportunity is open.

Profitable and intelligent selling or buying of a business requires careful analysis of the business itself; also thought and study devoted to choosing the most likely and logical buyer.

Negotiations should be dignified as well as confidential and the sale so made that both parties to the transaction profit by it—Horse trading methods are costly both ways.

Booklet "Financing and Liquidating" mailed on request

L. V. NICHOLAS
Oil Finance - Organization - Investment
624 South Michigan Ave.
Chicago, Ill.

All inquiries and correspondence strictly confidential and personal.

Gulf Export Market

Light Oils Continue Tight

Staff Special
NEW YORK, Nov. 3

GULF export light oil market continued relatively tight the past week. Foreign buying slowed up considerably from the pace it has been hitting the two previous weeks, but there were indications Saturday of a renewal of interest from abroad.

Following last week's sales at advancing prices, several suppliers withdrew from the market this week. Those who said they might consider additional business were quoting relatively high prices and admitted their positions were more or less nominal.

A majority of the trade continued to report there was practically no gasoline at the Gulf which could be loaded before the end of December. When confronted with inquiries for loading beyond this period, they asserted they were not interested.

Only one open market gasoline cargo was reported sold for loading at the Gulf this week. The purchase was made by a French company from an Independent Mid-Continent refiner for January loading. Conflicting reports were received by the New York trade as to the contents of the cargo and the prices. Advices from Paris indicated a sizable quantity of U. S. Motor gasoline, which sold at 9.125 cents, was to be included in the cargo, along with a quantity of 64-66, 375 end point material which sold at 11.25 cents. The seller confirmed the sale of only the latter grade and price.

Larger Gulf suppliers gave 9.50 cents and 11.50 cents, respectively, as their ideas of prices for U. S. Motor and 64-66, stating that these prices might be done if the reports regarding scarcity of material were not well founded, and goods could be located.

A French buyer entered the market Friday for approximately 50,000 barrels of U. S. Motor and 64-66, 375 end point gasoline for Dec. 15-Jan. 15 loading. The inquiry is scheduled for closing Nov. 5, that is, if the buyer is successful in obtaining offers. Those of the trade who are a bit skeptical about the firm position reported for gasoline at the higher prices, believe this inquiry will serve as a test.

There were some indications, however, that the buyer might withdraw from the market if unable to secure what he considered attractive prices. He designated either Gulf or north Atlantic loading which offered no chance for California gasoline to compete. The fact that he did not mention California gasoline gave rise to the belief in several quarters that his inquiry was urgent and shipment from the west coast would not reach him in time. It was considered unlikely, in view of this, that the inquiry would be withdrawn.

Sales of several small lots of kerosene for rounding out gasoline cargoes were reported this week. Prices for both prime white and water white were unchanged at 6.75 cents and 7.75 cents, respectively. The supply of the latter grade was said to be still relatively low and if suppliers were confronted with an inquiry for a sizable quantity, a higher price would doubtless obtain.

Activity in heavier oils was at a standstill but no easing of prices was noted. Most suppliers continued to quote 3.875 cents for 26 plus gravity gas oil. Thirty-two plus gravity goods was available in one or two directions at the same prices but several suppliers were asking an 0.125-cent more.

Bunker oil prices were unchanged. Grade C in cargoes was freely available at $0.65 a barrel. For bunkering purposes this oil was quoted at $0.85 a barrel in the New Orleans district and 10 cents higher further west in the Gulf.

New York Domestic Market

Jobbers Buy as Prices Decline

Staff Special
NEW YORK, Nov. 3

GENERAL recessions in tank car prices for gasoline at north Atlantic seaboard points this week had the effect of renewing jobber interest in the market. Most companies operating terminals at Baltimore and points north reduced this quotation for U. S. Motor gasoline, spot and over November, 0.25-cent to 11 cents.

The market was lifted from a state of coma in which it had rested during the last two weeks of October. The buying which resulted was, of course, on a smaller scale in keeping with the season, but the trade generally, sellers as well as buyers, were in a more optimistic frame of mind as a consequence.

The reduction in prices, instigated by a leading refiner in New York harbor, came as somewhat of a surprise to a good many of the trade. It was generally known that jobbers throughout October had been drawing upon the heavy stocks with which they began the month, and were on the verge of entering the market for additional goods by virtue of necessity. Throughout the quiet period, sellers had held firm to their 11.25-cent quotations, feeling it was but a matter of a short time before new business would be forthcoming. And they wholly expected to get 11.25 cents for their goods.

Some shading of 11.25 cents at New York harbor was reported during the early days of the week. Without a doubt, considering the small total volume of goods moving, purchases at under this price were representative of the general market. But it was not until several of the larger companies had reduced their quotations that a flat 11-cent market was conceded to prevail.

Several large sales of U. S. Motor gasoline by dealers operating in New York harbor were reported Friday and Saturday at 11 cents. There were rumors of some shading of this price going on Friday but at the same time a few of the larger companies continued to quote 11.25 cents. They reported they were getting occasional one and two-car orders at this price.

Several of the New England refiners and terminal operators reduced their prices 0.25-cent to 12.75 cents, delivered, in the Boston and Providence districts. Others continued to quote 13 cents, delivered, and expressed the behalf that a reduction in tank wagon was imminent if tank car prices were to slip further.

Leveling out of prices at Philadelphia and Baltimore to 11 cents flat also resulted from the reduction at New York harbor, but at points further south on the seaboard, where none but the larger companies have terminals large enough to accommodate ocean-going vessels, and where tank car shipments from the north are prohibited by freight rates, prices remained firm at last week's levels. All companies in the Norfolk and Charleston districts continued to quote 11.25 cents for U. S. Motor and in

the Savannah and Jacksonville districts, 11 cents.

The larger companies at New York, Baltimore and Philadelphia continued to ask 9 cents for water white kerosene in tank cars despite the lower prices prevailing in the field and reports of shading by smaller operators along the seaboard. Jobbing demand for this commodity was steady.

The heavier burning oils were in good demand at unchanged prices.

Correction

Price of U. S. Motor gasoline in the Gulf export market as of Oct. 29 on page 107 of the Oct. 31 issue of NATIONAL PETROLEUM NEWS was shown as 9.25 cents. Correct price on Oct. 29 was 9.25 to 9.50 cents.

Letter to the Editor

Editor NATIONAL PETROLEUM NEWS

Sir:

A good many manufacturers of penetrating oils advocate the admixture of these oils to crankcase oil in order to lower the cold test of the crankcase oil. It is well known that many, if not most, of the penetrating oils contain carbon tetrachloride, which, when subjected to moderate heat in the presence of a slight amount of mixture, forms hydrochloric acid, the effects of which on metal are well known.

It might be a good idea for you to publish an article notifying the oil trade that these oils are likely to cause trouble in a motor. We find that some of these penetrating oils do not have a low cold test, and of course they do not add to the lubricating value of the motor oil. In fact, they would detract from it.

In any case, the use of kerosene or gasoline to dilute the motor oil will have no effect on the metal in the motor, and will accomplish better results than any penetrating oil, as far as lowering cold test is concerned.

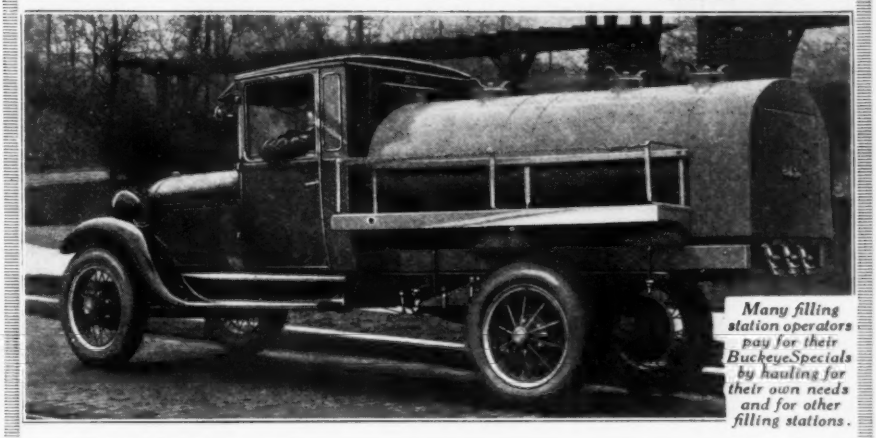
We believe that the oil trade should be warned about this, otherwise somebody will be getting into a lot of trouble.

Yours very truly,

THE WHITE F. BAGLEY CO.

(Signed) E. G. Bagley
Secretary

TULSA, Nov. 5.—The Oklahoma Natural Gas Corp. is conducting its first "Customer Ownership" campaign. The company is offering its patrons for a limited period an issue of 6½ per cent preferred stock.



Many filling station operators pay for their BuckeyeSpecials by hauling for their own needs and for other filling stations.

400 Gallon Size

A BUCKEYE SPECIAL ON A "AA" MODEL FORD

If you operate a Ford, Chevrolet, Dodge, or any other small truck, you are bound to be interested in the construction and price of the BUCKEYE SPECIAL.

Buckeye Specials are built substantially like the larger Buckeye jobs—come in sizes suitable for 1 and 1½ ton trucks—and are priced to interest you.

350 Gallons Only $180 — 400 Gallons Only $195 — 500 Gallons Only $230

All prices f. o. b. Dayton

Also light and heavy gauge underground gasoline storage tanks from 65 to 3000 gallons capacity.

Write for illustrated literature on both the Buckeye Special line, and on the regular line of Buckeye tanks for larger trucks.

Representatives wanted for preferred territory

The Buckeye Boiler Company
1616 McLain St., - Dayton, Ohio

BUCKEYE Quality Tanks

USED GAS PUMPS

PISTON AND VISIBLES—VARIOUS MAKES
ALWAYS ON HAND

Prices very Reasonable

Address H. W. Vogt

MILWAUKEE TANK WORKS

Milwaukee, Wis.

GRAIGRENE

[PRONOUNCED GREY-GREEN]

Profits

will be even greater —when winter comes!

Graigrene has produced generous summer profits for live dealers. But winter will bring even greater rewards. Cold weather is *profit* weather for Graigrene dealers.

Graigrene is the perfect cold weather lubricant. It never channels, never freezes up, never packs at gear sides—even when the mercury drops 60 degrees below zero. It *always* lubricates the vital teeth of transmission and differential gears. It always flows freely to every gear tooth and to every inner recess.

The lubrication of the transmission and differential of your car (Zones 2 and 3) is equally important with the Motor (Zone 1). They Should be protected with Graigrene, the efficient fluid lubricant.

Instruction Books Advise Against Heavy Grease

Motorists are learning the wisdom of a *fluid* lubricant. Automotive engineers prescribe a *fluid* lubricant. Graigrene advertising sells these motorists the *perfect fluid* lubricant they need for winter driving.

Estimate the cars in your territory! Each one needs 8 pounds of Graigrene, NOW. Busses and trucks require 40 pounds. You make 50% profit per pound. Count the sales—figure your profits.

Get started after these big Graigrene profits NOW. Write or wire us at once.

Oil Jobbers, Attention!

We offer oil jobbers and distributors exclusive territories and long term contracts. You make more than 50% profit per pound with Graigrene. Get started with your trade before cold weather arrives—or before some other dealer has gobbled up your territory.

GET THE LONG GREEN WITH GRAIGRENE

Manufactured by

Viscosity Oil Company

Established 1894

W. D. SIMMONS, President

Central Manufacturing District, CHICAGO

Phone Yards 7196

Complete Seaboard Market

(Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

	Nov. 5	Oct. 29	Oct. 22
U. S. MOTOR GASOLINE			
New York harbor	11.00	11.25	11.25
Portland district	*13.25	*13.50	*13.50
Boston district	*12.75	*13.00	*13.00
Providence district	*12.75	*13.00	*13.00
Philadelphia district	11.00	11.00 –11.25	11.25
Baltimore district	11.00	11.25	11.25
Norfolk district	11.00 –11.25	11.25	11.25
Charleston district	11.00 –11.25	11.25	11.25
Savannah district	11.00	11.00	11.00
Jacksonville district	11.00	11.00	11.00
CALIFORNIA U. S. MOTOR GASOLINE			
New York harbor	11.00	11.25	11.25
Philadelphia district	11.00	11.00	11.00
Baltimore district	11.00	11.25	11.25
WATER WHITE KEROSENE			
New York harbor	9.00	9.00	9.00
Philadelphia district	9.00	9.00	9.00
Baltimore district	9.00	9.00	9.00
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York harbor	6.50	6.50	6.50
Boston district	6.25 – 6.50	6.50	6.50
GRADE C BUNKER OIL			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00	$2.00	$2.00
MEDICINAL OILS, RUSSIAN			
885-890 s.g., 325-330 vis.	$0.80 – 0.90	$0.80 – 0.90	$0.80 – 0.90
870-875 s.g., 150-155 vis.	$0.67 – 0.77	$0.67 – 0.77	$0.67 – 0.77
860-865 s.g., 80-85 vis.	$0.65 – 0.75	$0.65 – 0.75	$0.65 – 0.75

*Minimum delivered.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are per gal. in bbls. Cylinder oils are Penna. products)

	Nov. 5	Oct. 29	Oct. 22
U. S. Motor gasoline	26.40	26.40	26.40
43-45 150 w.w. kerosene	18.90	18.90	18.90
42-44 110 s.w. kerosene	17.65	17.65	17.65
CYLINDER OILS			
Bright stock, dark	40.00 –41.00	39.00 –41.00	41.00 –42.00
600 D filtered	31.50 –32.00	31.00 –32.00	31.00 –32.00
600 Warren E filtered	26.50 –27.00	25.00 –26.00	26.00 –27.00
600 s.r. unfiltered	21.00 –22.00	20.50 –22.00	21.00 –22.00
650 s.r. unfiltered	23.00 –24.00	23.00 –24.00	22.50 –24.00
600 flash, s.r.	27.00 –28.00	26.50 –27.00	26.00 –26.50
630 flash, s.r.	36.00 –37.00	35.00 –36.00	35.00 –36.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	19.50	19.50	19.50
250 vis. No. 6 color	18.50	18.50	18.50
200 vis. No. 6 color	18.00	18.00	18.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	23.50	23.50	23.50
180 vis. No. 3¼ color	19.50	19.50	19.50
100 vis. No. 2¼ color	15.50	15.50	15.50
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	34.50	34.50	34.50
500 vis. No. 6¾ color	32.50	32.50	32.50
400 vis. No. 7¼ color	30.50	30.50	30.50
300 vis. No. 6 color	29.50	29.50	29.50
200 vis. No. 3¼ color	20.00	20.00	20.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	5.00 – 5.25	4.75 – 5.00	4.875– 5.125
124-126 A.m.p.	5.00 – 5.25	4.75 – 5.00	4.875– 5.125
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila	5.75	5.625– 5.75	5.75
125-127 A.m.p.	5.75 – 5.875	5.625– 5.875	5.75 – 5.875
128-130 A.m.p.	6.00	5.75 – 6.00	5.875– 6.00
130-132 A.m.p.	6.50	6.375– 6.50	6.50
133-135 A.m.p.	7.25	7.00 – 7.25	7.25
135-137 A.m.p.	7.75	7.50 – 7.75	7.75
YELLOW CRUDE SCALE			
14 126 A.m.p.	4.875– 5.125	4.875	4.875

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over unless otherwise noted, representing sellers' opinions, except those prices specified to the contrary)

	Nov. 5	Oct. 29	Oct. 22
GASOLINE			
U. S. Motor	†9.375	9.25 – 9.50	9.25
60-62 400 e.p.	10.50	10.25 –10.50	10.00 –10.25
61-63, 390 e.p.	11.00	10.875–11.00	10.625–10.75
64-66, 375 e.p.	†11.50	11.25 –11.50	11.00
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.00	$2.00	$2.00
†Sales only.			
KEROSENE			
44 water white	7.75	7.75	7.75 – 8.00
41-43 prime white	6.75	6.75	6.50 – 6.75
Water white, cases (cargoes)	$1.65	$1.65	$1.65
Prime white, cases (cargoes)	$1.55	$1.55	$1.55
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	3.875	3.875	3.875– 4.00
*30-32 translucent gas oil	3.875– 4.00	3.875– 4.00	4.00
Grade C bunker oil	$0.85 –$0.95	$0.85 –$0.95	$0.85 –$0.95
Grade C bunker oil, cargoes	$0.65	$0.65	$0.65 –$0.70
***Less than ½ of 1% sulfur.**			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.90 –$0.95	$0.90 –$0.95	$0.90 –$0.95
Grade C bunker oil, for bunkering purposes, taxes paid	$1.05	$1.05	$1.05
SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F.: cold test 0) (Tanker, f.o.b. Houston)			
100 vis. No. 2 unfiltered pale	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
200 vis. No. 3 unfiltered pale	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
300 vis. No. 3 unfiltered pale	9.50 –10.00	9.50 –10.00	9.50 –10.00
500 vis. No. 3½ unfiltered pale	10.75 –11.50	10.75 –11.50	10.75 –11.50
750 vis. No. 4 unfiltered pale	12.50 –13.00	12.50 –13.00	12.50 –13.00
1200 vis. No. 5 unfiltered pale	15.50 –17.00	15.50 –17.00	15.50 –17.00
200 vis. No. 5-6 red oil	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
300 vis. No. 5-6 red oil	8.00 – 9.00	8.00 – 9.00	8.00 – 9.00
500 vis. No. 5-6 red oil	9.75 –10.50	9.75 –10.50	9.75 –10.50
750 vis. No. 5-6 red oil	11.25 –12.00	11.25 –12.00	11.25 –12.00
1200 vis. No. 5-6 red oil	14.50 –16.50	14.50 –16.50	14.50 –16.50

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Nov. 5	Oct. 29	Oct. 22
Gasoline, U. S. Motor, 53-55 Gravity	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
Gasoline, U. S. Motor, blends and special cuts	9.00 –10.75	9.00 –10.75	9.00 –10.75
Gas Oil, 30-34, per barrel	$1.05 –$1.20	$1.10 –$1.20	$1.10 –$1.20
Diesel Oil, 27 plus, per barrel	$0.95 –$1.10	$0.95 –$1.10	$0.95 –$1.10
Bunker oil, 14-18, per barrel	$0.75 –$1.00	$0.75 –$1.00	$0.75 –$1.00
Fuel oil, 14-18 per barrel	$0.70 –$1.00	$0.70 –$1.00	$0.70 –$1.00
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.25 – 6.25	5.25 – 6.25	5.25 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125-150 flash	$1.50 –$1.60	$1.50 –$1.60	$1.50 –$1.60

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrels)

	Nov. 5	
	Crude &/or Fuel	Refined Oil
Calif. to U. K. or Continental ports*	25	22–23
Gulf to U. K. or Continental ports*	14	13
North Atlantic to U. K. or Continental ports*	12/3	11
Calif. to North Atlantic ports (not E. of N. Y.)	50-55c	64c
Gulf and North Atlantic ports (not E. of N. Y.)**	16-17c	20–25c

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.

**For Venezuela loading 1c per bbl. additional For Tampico loading 4c per bbl. additional.

Pennsylvania Oil PLUS

Plus what? — Plus the fact that it is blended from 450 Bright Stock (Sharples Process) refined in ONE Freedom Plant — and from 100% Pennsylvania Crude Neutrals refined in ANOTHER Freedom Plant. Thus, under one supervision, with the one guarantee of a 49 year old refinery, a line of Freedom 100% Pennsylvania Motor Oils is blended to specifications which appeal to discriminating jobbers — a complete line of oils that enable you to build your business and your customers' businesses on repeat order foundations.

For nearly 50 years, The Freedom Oil Works Company has specialized in the refining and blending of 100% Pennsylvania Oils. In one way, that explains why jobbers the country over come to this concern for their requirements.

Deliveries can be made immediately, in tank cars, compartment tank cars, barrels, or drums.

Write for quotations.

Guaranteed 100% PURE PENNSYLVANIA OIL

Permit No. 31

Also available for immediate shipment

450 Bright Stock (Sharples Process) which requires less Neutral to blend to the ordinarily required specifications.

100% Pennsylvania Motor Oils, *blended to your own Specifications*, from Freedom 450 Bright Stock and Freedom 100% Pennsylvania Crude Neutrals.

Freedom Quality Stocks
600 Steam Refined
635 Steam Refined
650 Steam Refined

Freedom 300 Mineral Seal Oil made to Railroad Specifications.

Freedom Filtered Burning Oils.

The Freedom Oil Works Company
Freedom, Penna.

Established 1879

Refineries at Freedom and Coraopolis, Pennsylvania

FREEDOM

Tank Wagon Price Changes

Gasoline Changes

Standard of Louisiana—S.s. price only of gasoline cut 2 cents, Shreveport, to 17.5 cents, including 2 cent state tax, **Oct. 29**, and advanced 2 cents, to 19.5 cents, **Nov. 2.** T.w. unchanged both dates at 17.5 cents.

September Brings More New Highs in Operations

WASHINGTON, Nov. 3.—New high levels in refinery operations were again reached in September, when daily average production of gasoline and crude runs to stills hit new high marks, these increases being in both cases for the eighth consecutive month this year. Production of crude also gained while stocks of gasoline and crude decreased, according to the U. S. Bureau of Mines.

Crude production in September, a 30-day month totaled 76,404,000 barrels compared with production of 77,829,000 barrels in August, a 31-day month. However, September output was at the rate of 2,546,800 barrels daily, compared with August daily average of 2,510,600 barrels.

The daily average production of Oklahoma rose to the new high level of 759,000 barrels, due to the operations in the St. Louis pool of Pottawatomie county and in the greater Seminole district. Seminole district output averaged 347,000 barrels daily during September, compared with 301,000 barrels daily average in August.

A total of crude decreased 1,945,000 barrels in September, standing at 607,173,000 barrels on Sept. 30. Stocks east of California declined 2,001,000 barrels while stocks in California increased to 113,433,000 barrels.

Crude runs to stills established a new record in September, when the output of crude was 2,660,000 barrels, compared with daily average of 2,631,700 barrels in August.

Daily average gasoline production was 1,118,000 barrels in September, compared with daily average of 1,098,000 barrels in August. Total output in September was 33,543,000 barrels. Stocks were 26,405,000 barrels at the end of September, a decrease of 792,000 barrels under Aug. 31 stocks. Gasoline exports were at the rate of 161,000 barrels daily, compared with 147,000 barrels in August. Total gasoline exports in September were 4,837,000 barrels.

Production of kerosene and wax fell off, while gas and fuel oil and lubricating oil output increased. Kerosene stocks declined, while stocks of other refined commodities increased.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for the whole year, arranged for quick reference)

These Prices in Effect Nov. 5, 1928, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline				Oil
			Total		
	T.W.	Tax	T.W.	S.S.	T.W.
Atlantic City, N. J.	17	2	19	20	14
Newark, N. J.	17	2	19	20	14
Annapolis, Md.	17	4	21	23	14
Baltimore, Md.	17	4	21	23	11
Cumberland, Md.	17	4	21	23	14
Washington, D. C.	17	2	19	21	14
Danville, Va.	17	5	22	*	14
Norfolk, Va.	14	5	19	20	14
Richmond, Va.	17	5	22	24	14
Roanoke, Va.	17	5	22	24	14
Petersburg, Va.	17	5	22	24	14
Charleston, W. Va.	17	4	21	23	14
Keyser, W. Va.	17	4	21	23	14
Parkersburg, W. Va.	17	4	21	23	14
Wheeling, W. Va.	17	4	21	23	14
Charlotte, N. C.	17	4	21	23	14
Hickory, N. C.	17	4	21	23	14
Mt. Airy, N. C.	17	4	21	23	14
Salisbury, N. C.	17	4	21	23	14
Charleston, S. C.	17	5	22	24	14
Columbia S. C.	17	5	22	24	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	18	0	18	*20	15
Albany, N. Y.	18	0	18	21	15
Buffalo, N. Y.	18	0	18	20	15
Rochester, N. Y.	18	0	18	20	13
Syracuse, N. Y.	18	0	18	20	15
Boston, Mass.	18	0	18	20	15
Augusta, Me.	18	4	22	24	15
Manchester, N. H.	18	4	22	24	15
Burlington, Vt.	18	3	21	23	15

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York, selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	17	*	17	*22	15
Philadelphia, Pa.	17	*	17	*22	15
Allentown, Pa.	17	*	17	*22	15
Erie, Pa.	17	*	17	*22	15
Scranton, Pa.	17	*	17	*22	15
Altoona, Pa.	17	*	17	*22	15
Dover, Del.	17	3	20	22	15
Wilmington, Del.	17	3	20	22	15
Providence, R. I.	18	2	20	22	15
Boston, Mass.	18	0	18	20	15
Springfield, Mass.	18	0	18	20	15
Worcester, Mass.	18	0	18	20	15
Hartford, Conn.	18	2	20	22	14
New Haven, Conn.	18	2	20	22	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Ashland, Ky.	17	5	22	24	15.5
Catlettsburg, Ky.	17	5	22	24	15.5
Lexington, Ky.	16	5	21	23	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	17	5	22	22	15.5
Clarksdale, Miss.	17	4	21	23	13
Gulfport, Miss.††	18.5	4	22.5	24.5	14
Jackson, Miss.	15	4	19	21	14.5
Natchez, Miss.	16.5	4	20.5	22.5	14
Vicksburg, Miss.	16.5	4	20.5	22.5	14
Birmingham, Ala.	14	4	18	20	14
Mobile, Ala‡	18	4	22	24	15
Montgomery, Ala.*	17	4	21	22	16.5
Atlanta, Ga.	18	4	22	24	†16.5
Augusta, Ga.	18	4	22	24	†15.5
Macon, Ga.	18	4	22	24	†16.5
Savannah, Ga.	17	4	21	21	†15.5
Jacksonville, Fla.	18	5	23	25	14.5
Miami, Fla.	19	5	24	26	15.5
Tampa, Fla.	18	5	23	25	14.5
Pensacola, Fla.**	19	5	24	24	14.5

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline				Oil
			Total		
	T.W.	Tax	T.W.	S.S.	T.W.
Chicago, Ill.	15	0	15	17	12
Decatur, Ill.	15.2	0	15.2	17.2	12.1
E. St. Louis, Ill.	14.4	0	14.4	16.4	11.2
Joliet, Ill.	15.4	0	15.4	17.4	12.3
Peoria, Ill.	15.2	0	15.2	17.2	12.1
Quincy, Ill.	15.2	0	15.2	17.2	11.9
Indianapolis, Ind.	15.2	3	18.2	20.2	13.2
Evansville, Ind.	15	3	18	20	13
South Bend, Ind.	15.4	3	18.4	20.4	13.4
Detroit, Mich.	15.8	3	18.8	20.8	13.7
Grand Rapids, Mich.	15.7	3	18.7	20.7	13.6
Saginaw, Mich.	15.9	3	18.9	20.9	13.8
Green Bay, Wis.	15.6	2	17.6	19.6	12.4
Madison, Wis.	15.3	2	17.3	17.3	12.1
Milwaukee, Wis.	15.1	2	17.1	19.1	11.9
La Cross, Wis.	16.2	2	18.2	20.2	13
Minneapolis, Minn.	16.2	2	18.2	20.2	12.9
Duluth, Minn.	16.5	2	18.5	20.5	12.9
Mankato, Minn.	16.1	2	18.1	20.1	12.7
Des Moines, Ia.	15.5	3	18.5	20.5	12.3
Davenport, Ia.	15.5	3	18.5	20.5	12.3
Sioux City, Ia.	15.1	3	18.1	20.1	11.9
Mason City, Ia.	15.5	3	18.5	20.5	12.3
St. Louis, Mo.	*14.9	2	16.9	18.9	11.3
Kansas City, Mo.	†15.9	2	17.9	19.9	10.6
St. Joseph, Mo.	†15.5	2	17.5	19.5	11.2
Fargo, N. D.	17.9	2	19.9	21.9	14.9
Grand Forks, N. D.	18.2	2	20.2	22.2	15.2
Minot, N. D.	17.9	2	19.9	21.9	14.9
Pierre, S. D.	16	4	20	22	13.4
Huron, S. D.	16.3	4	20.3	22.3	13.7
Wichita, Kans.	13.8	2	15.8	17.8	10.8
Bartlesville, Okla.	13.5	3	16.5	18.5	10.5

S. O. Indiana's quantity contract price schedule on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month; and 3c for 6000 gals. or more a month.

*Includes city tax of ½c.

†Includes city tax of 1c.

CONTINENTAL OIL

Denver, Colo.	16	3	19	22	14.5
Pueblo, Colo.	16	3	19	22	14.5
Grand Junc., Colo.	19.5	3	22.5	25.5	18
Casper, Wyo.	16	3	19	22	13
Cheyenne, Wyo.	17	3	20	23	14.5
Butte, Mont.	20.5	3	23.5	26.5	19
Helena, Mont.	20.5	3	23.5	26.5	19
Salt Lake City, Utah.	18.5	3½	22	25	17
Boise, Ida.	20.5	4	24.5	27.5	19
Twin Falls, Ida.	20.5	4	24.5	27.5	19
Albuquerque, N. M.	17	5	22	25	17

S. O. CALIFORNIA

Phoenix, Ariz.	12	4	16	20	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

S. O. LOUISIANA

Little Rock, Ark.	16	5	21	23	14
Alexandria, La.	15	2	17	19	†16
Baton Rouge, La.	14	2	16	18	†14.5
Lake Charles, La.	15.5	2	17.5	19.5	†16
New Orleans, La.	*13.5	2	*15.5	*17.5	†16
Shreveport, La.	15.5	2	17.5	19.5	†15
Lafayette, La.	15	2	17	19	†15.5
Bristol, Tenn.	18	3	21	23	15
Chattanooga, Tenn.	17.5	3	20.5	22.5	16
Knoxville, Tenn.	18	3	21	21	16
Nashville, Tenn.	17	3	20	22	16
Memphis, Tenn.	16	3	19	21	15

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax

S. O. OHIO

	Gasoline				Oil
			Total		
	T.W.	Tax	T.W.	S.S.	T.W.
All Ohio points	16	3	19	20	14

S. O. NEBRASKA

Omaha, Neb.	15.25	2	17.25	19.25	12.25
McCook	16.75	2	18.75	20.75	13.75
Norfolk	15.75	2	17.75	19.75	12.75
North Platte	16.75	2	18.75	20.50	13.50
Scottsbluff	16.75	2	18.75	20.75	13.25

MAGNOLIA PETROLEUM

Muskogee, Okla.	15	3	18	20	12
Oklahoma City	15	3	18	20	12
Tulsa, Okla.	14	3	17	19	10
Fort Smith, Ark*	15	†3	18	20	14
Little Rock, Ark.	16	5	21	23	14
Texarkana, Ark.*	14.5	*2	16.5	20.5	13
Dallas, Tex.	14	2	16	20	12
Fort Worth, Tex.	14	2	16	19	12
Houston, Tex.	14	2	16	20	15
San Antonio, Tex.	12	2	14	17	11
El Paso, Tex.	15	2	17	20	16

*Within city of Texarkana, the state tax on gasoline is 2c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 3c applies. In this district outside of the city, the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	14.7	16.2	18
Detroit	16.4	17.9	19.7
Kansas City	†14.9	†16.4	†18.2
Milwaukee	15.4	*18.9	*20.7
Minneapolis	*18.7	*20.2	*22
St. Louis	14.6	16.1	17.9
New York		20	....

*Includes 2c state tax. †Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons

	Gasoline				Oil
			Total		
	T.W.	Tax	T.W.	S.S.	T.W.
ONTARIO					
Toronto	20.5	3	23.5	27	22
Ottawa	20.5	3	23.5	27	22
Cochrane	25.5	3	28.5	..	27
Ft. William	23.5	3	26.5	30	23.5
MANITOBA					
Winnipeg	22.5	3	25.5	29	22.5
SASKATCHEWAN					
Regina	27	3	30	34	27
ALBERTA					
Edmonton	27.5	3	30.5	34	27.5
Calgary	22.5	3	25.5	29	22.5
BRITISH COLUMBIA					
Vancouver	22	3	25	29	23
QUEBEC					
Montreal	21.5	5	26.5	30	22
Quebec City	22.5	5	27.5	31	23
Three Rivers	22.5	5	27.5	31	23
NEW BRUNSWICK					
St. John	23.5	3	26.5	30	25
Moncton	23.5	3	26.5	30	25
NOVA SCOTIA					
Halifax	23.5	5	28.5	32	25
Sydney	23.5	5	28.5	32	25
PRINCE EDWARD ISLAND					
Charlottetown	23.5	5	28.5	32	25

Note: In districts surrounding these points 1c additional is added to city price.

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1/40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Colorado, 1/10c on both; Florida, 1/8c on both; Indiana, 2/25c on both; Kansas, 1/50c on both; Louisiana, 1/32c on gasoline, 1c on kerosene; Minnesota, 3/50c on both; Missouri, 1/50c on both; Nebraska, 3/50 to 1/2c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only: Iowa, 13/100c; Michigan, 1/5 to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above states or other states there are local inspection fees.

Crude Oil Prices (in Effect Nov. 5)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.45
Bradford District Oil in National Transit Lines (Bradford District)	3.45
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.35
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.35
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.25
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.45
Corning Grade in Buckeye Pipe Lines (Ohio)	1.80
Corning, O., heavy grade	1.70
Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.75
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines	$1.75

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective July 27, 1928

Wooster (Oct. 17)*	$1.77	Princeton	$1.55
Lima	1.60	Illinois	1.55
Waterloo	1.20	Plymouth	1.28
Indiana	1.37	West Kentucky	1.63

*Wooster crude run prior to Oct. 17, 1928 takes price of $1.67.

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$2.00
Oil Springs	2.07

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective July 26, 1928

Below 25	$0.60	35-35.9	$1.31
25-25.9	0.67	36-36.9	1.36
26-26.9	0.74	37-37.9	1.41
27-27.9	0.81	38-38.9	1.46
28-28.9	0.88	39-39.9	1.51
29-29.9	0.95	40-40.9	1.56
30-30.9	1.02	41-41.9	1.61
31-31.9	1.09	42-42.9	1.66
32-32.9	1.16	43-43.9	1.71
33-33.9	1.21	44 and above	1.76
34-34.9	1.26		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

July 26, same schedule as Prairie.

Mirando, Tex	$1.00

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

July 26, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 25	$0.60	27-29.9	$0.75
25-25.9	0.67	30-30.9	0.90
26-26.9	0.74	31-31.9	1.05

Glasscock, Crane, Upton, Winkler Counties	0.65
Chalkfield (Howard Co.)	0.80
Iatan district	0.93
Corsicana heavy	1.00

Carter Oil Co.

(Oklahoma and Kansas)

July 26, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective July 26, 1928

Hutchinson and Carson Counties:

Below 32	$0.69	38-38.9	$1.06
32-32.9	0.76	39-39.9	1.11
33-33.9	0.81	40-40.9	1.16
34-34.9	0.86	41-41.9	1.21
35-35.9	0.91	42-42.9	1.26
36-36.9	0.96	43-43.9	1.31
37-37.9	1.01	44 and above	1.36

Wheeler County:

Below 30	$0.65	37-37.9	$1.11
30-30.9	0.72	38-38.9	1.16
31-31.9	0.79	39-39.9	1.21
32-32.9	0.86	40-40.9	1.26
33-33.9	0.91	41-41.9	1.31
34-34.9	0.96	42-42.9	1.36
35-35.9	1.01	43-43.9	1.41
36-36.9	1.06	44 and above	1.46

Gray County:

Below 29	$0.68	37-37.9	$1.21
29-29.9	0.75	38-38.9	1.26
30-30.9	0.82	39-39.9	1.31
31-31.9	0.89	40-40.9	1.36
32-32.9	0.96	41-41.9	1.41
33-33.9	1.01	42-42.9	1.46
34-34.9	1.06	43-43.9	1.51
35-35.9	1.11	44 and above	1.56
36-36.9	1.16		

WEST TEXAS

Humble Oil & Refining Co.

Effective July 26, 1928

Winkler, Crane, Upton, Crockett, and Pecos Counties	$0.65

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto and **Cotton Valley.

Effective July 26, 1928

Below 28	$0.81	36-36.9	$1.36
28-28.9	0.88	37-37.9	1.41
29-29.9	0.95	38-38.9	1.46
30-30.9	1.02	39-39.9	1.51
31-31.9	1.09	40-40.9	1.56
32-32.9	1.16	41-41.9	1.61
33-33.9	1.21	42-42.9	1.66
34-34.9	1.26	43-43.9	1.71
35-35.9	1.31	44 and above	1.76

**Cotton Valley, below 36, $0.75. Beginning with 36-36.9, same schedule as above.

Smackover, below 24	$0.75
do 24 and above	.90
Bellevue	1.25
*Urania, La	.90
†East El Dorado	0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

Smackover prices posted on Feb. 7 by S. O. La., Gulf, Shreveport-El Dorado Pipe Line, Atlantic Oil Producing Co. and The Texas Co.; on Feb. 8 by Magnolia; on Feb. 6 by La. Oil Refg. Corp.

Aug. 8 The Texas Co., same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.60; 25-25.9, $0.67; 26-26.9, $0.74; 27-27.9, $0.81.

Aug. 7 Magnolia Petroleum met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective Aug. 2, 1928

Below 28	$0.75	30-30.9	$0.87
28-28.9	0.79	31-31.9	0.91
29-29.9	0.84	32 and above	0.95

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective March 14, 1927

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Railroad Strike Cloud Seems to Have Passed

WASHINGTON, Nov. 5.—The western railroad labor situation passed what is believed to have been the critical stage on Nov. 1.

On Oct. 30, the emergency board appointed by President Coolidge to investigate and report on the dispute made public its report. It submitted proposals, which, in substance, were the offers made to the train operatives by the railroads; that is a 6.5 per cent increase in wages without change in the rules, or a 7.5 per cent increase with changes in the rules governing working conditions.

The board asserted the questions involved were such as could be arbitrated. It said it was difficult for it to see why the controversy should have arrived at a stage where it could not be settled by negotiations. In other words it was such a trifling matter that it was surprising that the parties to it should have allowed themselves to get into a position where it required the President of the United States to intervene to prevent interruption of transportation.

Venezuelan Crude Tight

NEW YORK, Nov. 3.—Venezuelan crude market continues rather tight with spot cargoes reported difficult to obtain. Occasional firm offers at around $0.86 a barrel, f.o.b. deepwater, Lake Maracaibo region, have been made in the last fortnight or so, but for the most part suppliers are asking $0.90 a barrel and up.

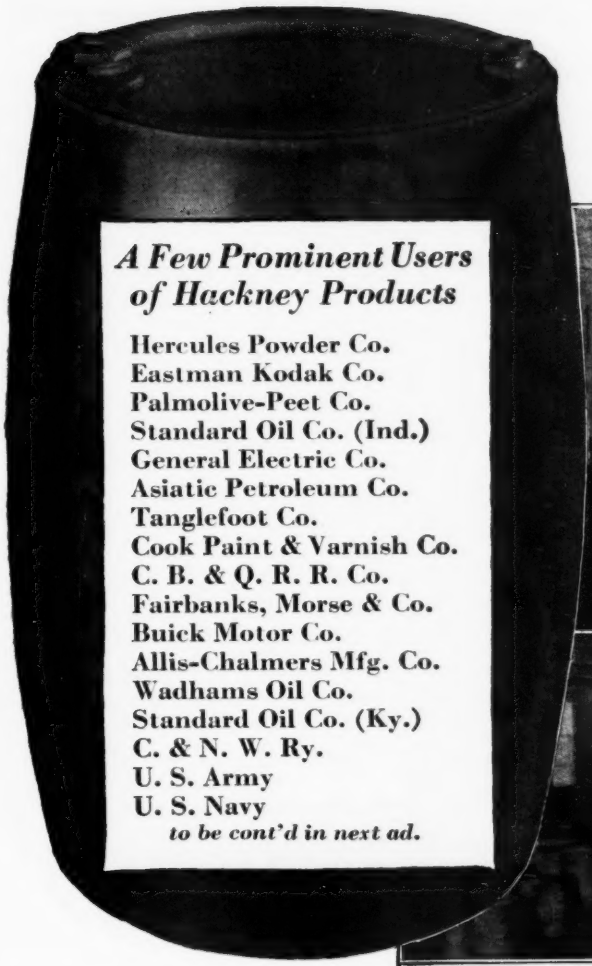
Contracts involving over 2,000,000 barrels of oil for delivery over next year were closed this week at a reported price of $0.91 a barrel.

Visiting Oil Men in New York

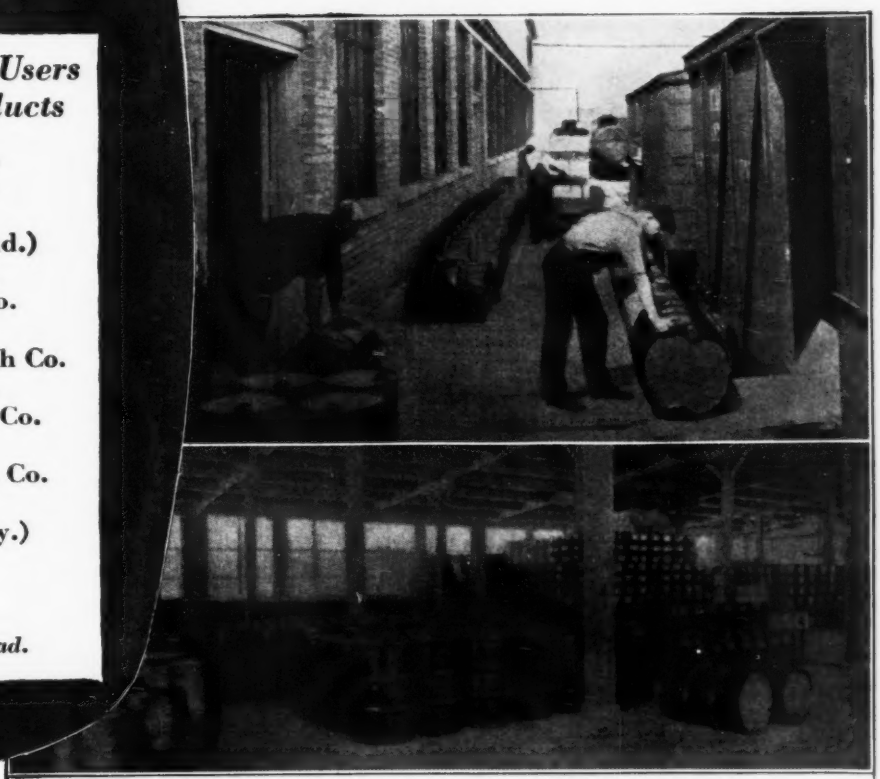
NEW YORK, Nov. 2.—Among the prominent oil men from out of town visiting the New York trade this week were C. M. Fuller, president of Richfield Oil Co., Los Angeles; R. D. Matthews, Union Oil Co. of Calif., Los Angeles; D. E. Buchanan, Chestnut & Smith Corp., Tulsa.

A. S. Debenham, director of the Asiatic Petroleum Co. arrived in New York from London early this week for a stay of ten days. Mr. Debenham will make a canvass of oil trade conditions and the outlook for 1929 while here.

RICHMOND, Va., Nov. 2.—Included in the plans to take over ice plants in several southeastern cities by a new company headed by Robert R. Livington, of New York, and Edwin C. Gregory, of Salisbury, N. C., is the acquisition of the ice plant of the Lenoir Oil & Ice Co. at Kinston, N. C.



Wadhams
Tempered Motor Oil



Shipping platform and warehouse scene—Wadhams Oil Company

WHEN SERVICE IS IMPORTANT—AS WELL AS COSTS

In the highly competitive field of motor oils, costs must be kept as low as possible. But not at the expense of service.

The Wadhams Oil Company found that Hackney Steel Barrels and Drums assure the best possible delivery of their product. That they do not become damaged in transit—are easy to handle and empty—and are neat in appearance.

Their extremely hard shells and sturdy construction withstand severe usage and assure many, many years of service. Service that means better satisfied customers and lower handling costs.

What the Wadhams Oil Company have found to be true—hundreds of other industrial leaders have also recognized.

Perhaps you can improve your service and cut your costs the same way. We'll be glad to send you a catalog describing the complete line of Hackney containers in detail. Write for it today.

PRESSED STEEL TANK COMPANY

1141 Continental Bank Bldg. - - - - Chicago
1317 Vanderbilt Concourse Bldg. - New York City
5719 Greenfield Avenue - - - Milwaukee, Wis.

Hackney
MILWAUKEE

Crude Oil Prices (in Effect Nov. 5)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective March 14, 1927

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective July 26, 1928)

‡Salt Creek 29-29.9	$0.95
" " 30-30.9	1.02
" " 31-31.9	1.09
" " 32-32.9	1.16
" " 33-33.9	1.21
" " 34-34.9	1.26
" " 35-35.9	1.31
" " 36-36.9	1.36
" " 37 and above	1.41
Elk Basin	1.48
Grass Creek light	1.48
Big Muddy	1.33
Lance Creek	1.48
Rock Creek	1.33
Mule Creek	1.10
Rex Lake	1.10
‡Osage	1.48
‡Cat Creek, Mont.	1.48
Sunburst, Mont.	1.65
‡Hogback, N. Mex.	1.48
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Olinda-Brea Canon Richfield	Athens-Rosecrans Dominguez	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick	†Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	....	$ .85	$ .85	....	$ .75	$ .50	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85	$ .85
15-15.9	.85	.85	.85	....	.85	.85	....	.75	.50	.75	.75	.75	.75	.85	.85	.85
16-16.9	.85	.85	.85	....	.85	.85	....	.75	.50	.75	.75	.75	.75	.85	.85	.85
17-17.9	.85	.85	.85	....	.85	.85	....	.75	.50	.75	.75	.75	.75	.85	.85	.85
18-18.9	.85	.85	.85	....	.85	.85	....	.75	.50	.75	.75	.75	.75	.85	.85	.85
19-19.9	.85	.85	.85	....	.85	.85	....	.75	.50	.75	.75	.75	.75	.85	.85	.85
20-20.9	.85	.85	.85	....	.85	.85	....	....	....	.77	.77	.77	.77	.86	.85	.85
21-21.9	.89	.89	.89	....	.88	.88	.89	....	....	.79	.79	.79	.79	.89	.86	.86
22-22.9	.93	.93	.93	....	.91	.91	.92	....	....	.82	.82	.82	.82	.92	.87	.87
23-23.9	.97	.97	.97	....	....	.94	.95	....	....	.86	.86	.85	.85	.95	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	.97	.98	....	....	.90	.90	.88	.88	.98	.93	.94
25-25.9	1.05	1.05	1.05	1.05	....	1.00	1.01	....	....	.95	.95	.91	.91	1.01	.95	.98
26-26.9	1.09	1.09	1.09	1.09	....	1.04	1.04	....	....	1.00	1.00	.94	.94	1.04	.97	1.02
27-27.9	1.13	1.13	1.13	1.13	....	1.08	1.07	....	....	1.05	1.05	.98	.97	1.07	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	1.12	1.10	....	....	1.10	1.10	1.02	....	1.10	....	1.10
29-29.9	1.21	....	1.21	1.21	....	1.16	1.15	....	....	1.16	1.16	1.06	....	1.13	....	1.14
30-30.9	1.25	....	1.25	1.25	....	1.20	1.20	....	....	1.22	1.22	1.10	....	1.16	....	1.18
31-31.9	1.30	....	....	1.30	....	....	1.25	....	....	1.28	1.28	1.14	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	1.30	....	....	1.34	1.34	1.18	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	1.35	....	....	1.40	1.40	1.22	....	....	....	....
34-34.9	....	....	....	1.47	....	....	1.40	....	....	....	1.46	1.26	....	....	....	....
35-35.9	....	....	....	1.53	....	....	1.45	....	....	....	....	1.30	....	....	....	....
36-36.9	....	....	....	1.59	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except in Montebello and Wheeler Ridge. It also posts Elwood Terrace at same price as Rosecrans—Dominguez and also posts Santa Maria (Orcutt) and Ventura.

†Kern River down to 12° gravity is 50c; 11-11.9 is 45c.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

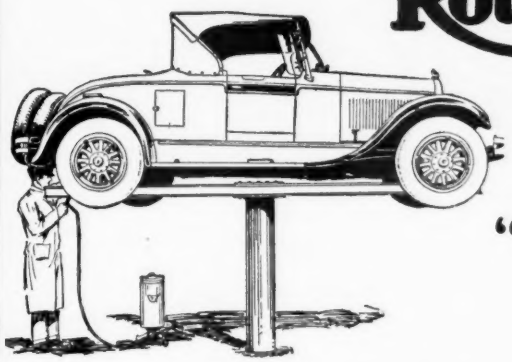
	Nov. 5	Oct. 29
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.65	$1.65
Silicate of Soda 40 deg. tank cars cv	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.70-0.75	$0.70-0.75
Sal Soda wks	$0.90	$0.90
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks	$18.50	$18.50
Sulfur, flowers of cwt.	$3.10-4.00	$3.10-4.00
Liquid Chlorine, tank cars, wks lb.	3.00-4.50	3.00-4.50
Litharge, powered, casks, cwt.	9.00	9.00

Compounders' Supplies

Vegetable Oils		
Linseed carloads, spot lb.	10 00	10 00
Tanks, spot	9.20	9.20
Soya Bean, Tanks, coast, lb.	9.625	9.75
Oleic Acid		
Distilled, tanks lb.	8.75	8.75
Distilled, bbls. lb.	9.50	9.50
Saponified, tanks lb.	9.00	9.00
Saponified, bbls. lb.	9.75	9.75
Lard Oils		
Prime Winter Strained lb.	16.25	16.50
Extra Winter Strained lb.	14.25	14.25
Extra lb.	13.50	13.375
Extra No. 1 lb.	13.25	13.25
No. 1 lb.	12.75	12.75
No. 2 lb.	12.375	12.375
Tallow oil lb.	12.25	12.25
Neatsfoot Oil		
Pure, bbls. lb.	15.25	15.25
Extra, bbls. lb.	13.25	13.25
No. 1 bbls. lb.	12.75	12.75
Cold Pressed lb.	19.00	19.00
Fish Oils		
Menhaden Oil		
Light Pressed gal.	63-64	60
Light Pressed, tank cars, N. Y. gal.	54-56	53-54
White bleached gal.	68-70	67-68
Yellow bleached gal.	65-67	64
Whale, extra winter bleached, gal.	84	84
Naval Stores		
Steam distilled turpentine, N. Y. gal.	52	51
Steam distilled turpentine, Savannah gal.	47	46
Gum turpentine, N. Y. gal.	56	56
Gum turpentine, f.o.b. cars Savannah gal.	52	57
Wood Rosin F, N. Y. bbl.	$7.85	$7.85
Wood Rosin F, Savn'h. bbl.	$7.15	$7.15
Gum Rosin B, N. Y. bbl.	$8.70	$8.70
Gum Rosin B, f.o.b. cars Savannah bbl.	$7.95	$7.95
Rosin oil, pure gal.	62	62
Rosin oil, compounded gal.	51	51
Pine Tar		
Kiln burnt bbl.	$13.00-14.00	$12.50-14.00
Retort bbl.	$13.50-14.50	$13.50-15.50
Alcohol		
Denatured, Formula 5, in bbls., per gal.	55-62	54-61

*Nominal.

Rotary Lift



Model 85

The

"All-Purpose" Lift

An improved Chassis (free-wheel) type Rotary Lift designed for stations whose service includes washing, greasing, tire and brake service and minor repairs and adjustments. Especially suitable for washing, tire service and brake adjustments.

Descriptive circular on request.

Automobile Rotary Lift Company
Memphis, Tennessee

Clean pumps attract gallonage!

IT'S the *clean* gasoline pump that gets the business in preference to the dirty one, every time!

Keep *yours* bright and attractive by cleaning them with Oakite. Go over them *now* with an Oakite solution —a quick, easy and SAFE way to freshen up paint and brighten globes and visible bowls. *It's good business!*

Write for interesting booklet that tells how to do *all* filling station cleaning jobs easier and better. Sent on request.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of U. S. and Canada.

Manufactured only by

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Industrial Cleaning Materials and Methods

GULF Refining Company

General Sales Offices
PITTSBURGH, PA.

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REFINERS OF OKLAHOMA, TEXAS AND LOUISIANA

PETROLEUM

Refined Oil, Naphtha, Paraffine Wax
Gasoline, Gas Oils, Petroleum Coke

FUEL OILS

LUBRICATING OILS

Cylinder, Engine, Cordage

RED AND PALE PARAFFINE OILS

OIL STOCKS AND FINANCES

National Petroleum News

Five More Companies Report Improvement in Earnings

CLEVELAND, Nov. 5

BETTER earnings in the third quarter of this year than in the third quarter of last year are reported by five of eight companies who published earnings statements the last week. Two companies reported smaller earnings. Figures for the 1927 third quarter of one company are not available so a comparison for it is impossible.

Only four of the eight report increased earnings in the first nine months of this year over the corresponding time last year. A comparison of one of the remaining four cannot be given because of the missing third quarter.

E. B. Reeser, president of Barnsdall in a statement, accompanying the report said:

"The current position continues to improve. On Sept. 30 the ratio of current assets to current liabilities was 2½ times, as compared to 1.35 on Jan. 1, 1928. Through the conversion rights $3,351,500 of debentures have been retired and 129,130 shares of additional stock issued, making the total number of shares outstanding 1,423,969 on Oct. 22.

"The condition of the corporation continues to strengthen in every department. The outstanding improvement is particularly gratifying in California, where the second well (Luton Bell No. 2) in the recently discovered field near Santa Barbara has been drilled into the sand and will be placed on production by November 2. It has every indication of being at least as large as the original well, which continues, pinched in, to produce over 100 barrels an hour.

"The third well, Doty No. 1, located 1,550 feet east of the discovery well, is in the producing formation and will be on production within ten days.

"Elwood No. 1, located 6,000 feet east of the initial well, is 40 feet in the producing formation and stands cemented, and it is expected will be on production within two weeks. In fact, our California situation promises to be of great magnitude."

J. H. Graham, president of Indian, wrote his stockholders that the company's new lubricating oil process when applied commercially had better results than had been indicated by the laboratory experiments. He said:

"During the past four months we have operated the various units comprising our new lubricating plant, testing and trying them out for errors in design and defects in construction and materials. We have found no serious defects, and such as we have found and such changes as we have made have been of importance only in relation to the time consumed in making the changes. We have also educated our people in the operation of this equipment, which was an important task, as everything about it is so completely novel.

"At no time during this period have we encountered any trouble with our process. In fact, the process has proved better in plant scale production than in the laboratory. The quality of lubricating oils produced is unique. They are superior in every way to the oils we obtained in our laboratory work. They have a greater temperature range than we dared hope for, will flow or pump at ten degrees below zero Fahr. and continue to lubricate at high temperatures far in excess of any previous experience."

Jacob France, president of Mid-Continent Petroleum Corp., stated to stockholders:

"Company is in exceptionally strong current position. As of Sept. 30, 1928, current assets were $24,025,990 and current liabilities $2,075,712, a ratio of over 11 to 1. Cash in banks and call loans total $10,571,663, or more than five times current liabilities. Cash position has improved over $3,000,000 since Sept. 30, 1927.

"Bonds have been reduced $3,442,000 by sinking fund operations, leaving $9,058,000 outstanding as of September 30, last. Capital assets, after depreciation and depletion, have increased more than $10,000,000; net current assets have increased over $8,500,000, and about $1,900,000 of purchase obligations have been paid.

"The company has made substantial progress in all of its activities. Extensive improvements to the refinery at West Tulsa have increased its efficiency and reduced operating cost. Undeveloped acreage has been increased from 152,552 acres as of March 31, 1925, to 608,976 acres as of Aug. 31, 1928. Pipe line system has been extended to all principal Oklahoma fields, and with its own production company is assured an ample crude supply for its refinery. It has continued the policy of increasing marketing facilities and is distributing a substantial part of its output through its own stations. Refined oils are marketed under company's trade name of Diamond products and the demand for Diamond motor oils and Diamond Nevr-Nox gasoline is steadily increasing."

Chairman Thomas W. Streeter and Edward T. Moore of Simms Petroleum Co. wrote stockholders:

"The improvement in earnings resulted largely from higher gasoline prices and consequent increased profits from refining and marketing operations. Your company has a very large amount of shut in production in the Yates field in Pecos county, Texas. Production revenue in the third quarter was somewhat larger than in the previous quarter due primarily to a small increase in the amount of permitted runs from that field.

"The current asset position of the company continued to improve during the third quarter. Book value of net quick assets increased from $4,553,888 June 30, 1928, to $5,062,622 Sept. 30, 1928, resulting principally in increased cash holdings. Net quick assets increased $888,747 during the nine months ended Sept. 30, 1928."

Simms produced an average of 13,245 barrels of crude a day in the third quarter, as compared with 17,857 barrels in the third quarter of 1927. Daily average refinery throughput was 6208 barrels as compared with 5433 barrels in the third quarter of 1927.

Comparative third quarter and nine-month earnings results follows:

OIL COMPANY EARNINGS

Third Quarter	1928	1927
Amerada Corp.	$ 577,563	$ 763,273
Barnsdall Corp.	1,398,134	1,705,809
Indian Refining Co.	398,212	.....
Louisiana Oil Refining Corp.	‡549,075	*17,310
Mid-Continent Petroleum Corp.	†3,992,454	†2,558,402
Simms Petroleum Co.	269,093	234,200
Skelly Oil Co.	2,006,063	769,938
Texas Pacific Coal & Oil Co.	55,789	516,681
Nine Months	**1928**	**1927**
Amerada	$1,635,471	$2,853,702
Barnsdall Corp.	2,401,461	3,348,328
Indian Refining Co.	508,745	.....
Louisiana Oil Refining Corp.	‡1,137,133	‡273,316
Mid-Continent Petroleum Corp.	†7,241,119	†7,443,357
Simms Petroleum Co.	59,250	22,591
Skelly Oil Co.	2,462,407	1,591,528
Texas Pacific Coal & Oil Co.	1,272,939	1,863,553

*Loss. ‡Before federal taxes. †Before depreciation, depletion, and federal taxes.

Lubricant or food, the package has a lot to do with it

WITH rare exceptions, adventures in better packages have well repaid their backers. Quality packed, a quality product is almost sure to prosper.

Canco packages have been intimately concerned with many a market success. As better packages, they have ranged from slip cover fibre cans—a big step up from bags—to that Canco key-opening scored can which is the highest type of container for sensitive products.

Canco men have devised new containers to meet new needs; better containers for old needs. They have lithographed more than one brand from obscurity to fame. Somewhere among them there is always at least one man who knows what's what in any tangle of packing and marketing questions.

The Canco representative who calls on you—or is called in by you—is a direct connection with the full power of Canco research and resource. He's a good man to consult—and freely.

AMERICAN CAN COMPANY

CONTAINERS OF TIN PLATE - BLACK IRON - GALVANIZED IRON - FIBRE
METAL SIGNS AND DISPLAY FIXTURES

CANCO

NEW YORK CHICAGO SAN FRANCISCO

Transactions in Oil Shares on New York Stock Exchange

1927 High	1927 Low	1928 High	1928 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Nov. 3 Sales	First	High	Low	Last	Change
37⅛	27⅝	38	27⅛	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Oct. 31, 28	23,500	32	35½	31⅜	34⅞	+ 2⅞
82½	35⅛	85	51¼	(sh) 209,180	N.P.	American Republics Corp.	....	.....	11,900	72⅜	73⅞	67⅛	70	— 1⅝
50¼	35	53⅛	37½	$56,000,000	$ 25	Associated Oil	50cQ	Sept. 29, 28	40	48⅛	48⅛	47	47	— 1
131⅝	104	231⅝	95¾	50,000,000	100	Atlantic Refining	$1Q	Sept. 15, 28	29,200	228	233¾	217½	220⅛	— 6⅞
119	115½	118¼	114½	20,000,000	100	do pfd	$1.75Q	Aug. 1, 28	190	116	116	115⅛	115⅛	— ⅜
35½	20¾	45⅞	20⅛	30,971,225	25	Barnsdall Corp. A	50cQ	Oct. 31, 28	163,200	43¾	44⅜	40¼	44	+ 1¼
32½	20½	44	22	581,850	25	do B	50cQ	Oct. 31, 28	100	42⅝	42⅝	42⅝	42⅝	+ ⅛
18¼	14	23½	12¼	946,518	N.P.	Beacon Oil	....	.....	29,300	21⅞	22	20⅛	20⅜	— 1⅜
32⅞	20	35	24	51,524,150	25	California Petroleum	25cQ	Oct. 1, 28	.....	.....	.....	.....	.....	.....
96⅝	65	94⅞	70	20,980,400	100	General Asphalt	....	.....	9,600	73	74¼	70⅜	72¼	— ¾
144⅞	107¼	141½	111	6,662,200	100	do pfd	$1.25Q	Sept. 1, 28	100	113	113	113	133	— 3
175⅝	60⅛	167	127	25,000,000	100	Houston Oil	....	.....	7,100	138	139½	133	137½	+ ½
32⅝	17⅝	34¼	21⅝	(sh) 659,000	N.P.	Independent Oil & Gas	37½cQ	Oct. 31, 28	41,900	33	33⅝	31⅜	32⅝	+ ¼
12⅛	7⅝	39⅝	9	$3,582,670	$ 10	Indian Refining	....	Dec. 15, 20	17,600	32½	32¾	30⅝	32¼	+ ½
12	7¼	33⅜	8½	4,550,110	10	do ctfs.	....	.....	11,200	29	29	27½	28	— ⅛
112	99	250	101	2,296,400	100	do pfd	....	Dec. 15, 21	100	160	160	160	160	0
37⅜	20½	39⅛	27⅜	(sh) 3,992,234	N.P.	Lago Oil & Transport	75cQ	Aug. 2, 28	2,200	32½	34⅜	32	33¾	+ ½
18⅛	10	19¾	9⅜	(sh) 1,187,003	N.P.	Louisiana Oil Refining	.....	.....	82,700	17¼	17½	16	17¼	+ 5/8
97	85¼	101	78	$4,000,000	$100	do pfd	$1⅝Q	Aug. 15, 28	.....	.....	.....	.....	.....	.....
22¾	12	25½	12⅛	(sh) 330,000	N.P.	Maracaibo Oil	....	.....	6,400	19¾	20¼	18⅜	19¼	— ¼
58½	31	46⅝	33	(sh) 2,316,851	N.P.	Marland Oil Co.	....	Mar. 31, 27	281,300	45	*46⅝	41⅜	45½	+ 1¾
320	200	360	250	$45,942,800	$100	Mexican Petroleum	$3Q	Oct. 20, 28	.....	....	....	....	....	.....
....	....	....	....	12,000,000	100	do pfd	$2Q	Oct. 20, 28	.....	....	....	....	....	.....
9¼	3	41½	4⅝	(sh) 995,500	N.P.	Mexican Seaboard	....	Nov. 15, 24	223,500	37½	39½	36⅛	38	+ 1⅞
39⅜	25½	38⅝	25⅛	(sh) 1,857,461	N.P.	Mid-Continent	....	Aug. 1, 27	91,500	37⅜	38⅜	35⅝	37¼	— ½
105	97	115⅛	103¼	$6,718,000	$100	do pfd	$1.75Q	Sept. 1, 28	300	114	114	113	113	+ ½
3¾	1⅜	7¾	2⅜	24,060,470	10	Middle States	....	July 1, 23	20,700	5⅞	6	5½	5¾	+ ⅛
2¾	1⅛	5⅞	1½	5,739,750	10	do ctfs.	....	.....	2,100	4⅜	4⅜	3⅞	3⅞	— ⅛
1⅞	1	2¼	1	(sh) 3,500,000	N.P.	Pacific Oil	....	.....	5,100	1⅛	1¼	1	1⅛	— ⅛
65⅞	40⅛	53⅜	38¼	$50,000,000	$ 50	Pan American P. & T.	....	Oct. 20, 27	14,200	50	51½	47	51¼	+ 1¼
66⅜	40¼	54⅜	37¾	121,100,000	50	do B	....	Oct. 20, 27	163,000	52¼	53⅜	48⅛	53½	+ 1½
37⅞	16¾	28⅜	15½	(sh) 400,000	N.P.	Pan American	....	Jan. 30, 27	2,100	17¾	17½	17¼	17½	0
18⅞	8	21⅜	11½	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	5,100	16⅜	16⅜	14½	16	— ⅜
83	54	106¼	70	$2,935,200	$100	do pfd	....	July 2, 23	700	90	90	87	87	— 3
60¼	36¼	46½	35¼	(sh) 2,406,796	N.P.	Phillips Petroleum	37½cQ	Oct. 1, 28	97,700	44⅜	*46½	43½	46¼	+ 2
1⅛	½	4¼	½	$29,622,925	$ 25	Pierce Oil	....	.....	17,400	3⅜	3⅜	2⅞	3	— ¼
24	13½	50	16¼	15,000,000	100	do pfd	....	Feb. 1, 22	1,600	39	39⅜	38	38	— 1
5½	2½	6¾	3½	(sh) 2,500,000	N.P.	Pierce Petroleum	....	.....	10,600	5⅞	6	5½	5½	— ¼
33⅞	16⅜	26⅞	16	$37,450,850	$ 50	Producers & Refiners	....	Sept. 15, 23	7,800	24½	25¾	23¼	24⅛	0
50	36⅞	46⅞	41	2,845,350	50	do pfd	....	May 1, 25	100	43½	43½	43½	43½	0
33⅛	25	28½	19	75,952,250	25	Pure Oil Co.	12½cQ	Sept. 1, 28	78,100	27⅛	28⅜	26⅛	27	— ⅝
115½	111⅜	115	108	13,000,000	100	do 8% pfd	$2Q	Oct. 1, 28	180	114½	114½	113	113¾	+ ¼
28⅝	25⅝	51⅞	24	$43,764,450	$ 25	Richfield Oil	‡25cQ	Aug. 15, 28	38,700	47⅝	49½	46⅞	49½	+ 2
54½	44¼	64	44⅝	(sh) 585,293	13.40	Royal Dutch N. Y. shares	$1.879	Aug. 3, 28	4,800	62½	62½	60¾	61⅝	— ⅜
47⅞	41⅜	57½	40⅝	(sh) 67,300	£2	Shell Transport & T.	$1.455	July 23, 28	.....	.....	.....	.....	.....	.....
31⅝	24⅝	32⅝	23¼	(sh) 10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 28	113,400	31¾	*32⅝	30½	32¼	+ ⅜
26⅝	14¼	25⅛	18⅛	$7,208,080	$ 10	Simms Petroleum	....	Apr. 1, 27	11,800	24¾	24⅞	23½	24	— ⅜
22⅜	15	44⅛	17⅜	(sh) 4,503,031	N.P.	Sinclair Consolidated	....	May 31, 24	1,479,300	36¾	*44⅛	36½	42¼	+ 5⅜
104½	97	110	102½	$16,310,100	$100	do pfd	$2Q	Aug. 15, 28	800	110	*110	107	107½	+ ½
37⅝	24⅛	39	25	27,396,590	25	Skelly Oil Co.	50cQ	Sept. 15, 28	43,900	39	39	36½	37½	— 1⅜
60¾	50⅜	63⅞	53	(sh) 13,016,434	N.P.	S. O. California	62½cQ	Sept. 15, 28	41,800	63	63⅛	61	63	+ ⅜
41⅜	35⅛	49	37¾	$610,195,375	$ 25	S. O. New Jersey	‡25cQ	Sept. 15, 28	151,500	46¾	48⅛	46⅜	48⅛	+ 1⅜
34⅛	29¾	41½	28¾	431,973,275	25	S. O. New York	40cQ	Sept. 15, 28	92,700	36	36⅜	35⅛	36	+ ⅛
34⅞	30	65⅛	31½	(sh) 1,300,532	N.P.	Sun Oil	25cQ	Sept. 15, 28	5,200	62½	63	61⅝	62½	— ¾
101⅝	99	109½	100	$5,000,000	$100	do pfd	$1.50Q	Sept. 1, 28	50	104⅛	104⅛	101½	101½	— 4
6½	3⅛	11⅞	2½	(sh) 1,186,078	N.P.	Superior Oil Corp	.....	Dec. 20, 20	96,600	11¾	11½	10	10⅝	— ⅝
58	45	72⅛	50	$210,577,050	$ 25	The Texas Corp.	75cQ	Oct. 1, 28	55,700	68⅝	69¼	67	68½	+ ⅛
18⅞	12	19⅝	12½	8,380,340	10	Texas Pacific Coal & Oil	....	Jan. 3, 28	111,700	17⅜	*19⅝	17	19⅛	+ 1⅞
29⅛	19	36	19⅝	(sh) 2,168,498	N.P.	Tide Water Oil Co.	20cQ	Sept. 29, 28	6,800	34½	34⅞	33⅛	34	0
90½	85	94½	87	$20,705,200	$100	do 5½% pfd	$1.25Q	Aug. 15, 28	.....	.....	.....	.....	.....	.....
19⅛	15¾	24¾	14¾	(sh) 4,824,766	N.P.	Tide Water Associated	....	Aug. 1, 27	47,500	22⅞	23	21¼	22	— ½
90¾	85	90¾	82⅛	$72,745,958	$100	do pfd	$1.50Q	Oct. 1, 28	1,100	88⅞	88⅞	88½	88⅞	— ⅛
10⅜	3¾	10⅛	7	(sh) 3,842,029	N.P.	Transcontinental Oil	....	.....	42,800	8⅞	8⅞	8⅛	8⅛	+ ⅛
56½	39⅜	57	42¾	$40,841,100	$ 25	Union Oil of California	50cQ	Nov. 10, 28	15,300	53⅜	54⅜	51½	52½	— ½
127½	94	128⅛	110	31,061,200	100	Union Tank Car Co.	$1.25Q	Sept. 1, 28	200	117	117	116	116	— 1
34½	24½	44⅞	26	(sh) 357,197	N.P.	Warner Quinlan	50cQ	Oct. 1, 28	58,500	41⅛	43½	41⅛	42	+ 1
27½	20	30¼	20⅛	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	Oct. 20, 28	9,000	29⅞	29⅞	28½	29	— ⅞
....	....	19¾	18⅜	(sh) 418,967	N.P.	Wilcox Oil & Gas	....	May 10, 28	4,600	19	20¾	19	20¾	+ 1⅞

*New High †New Low ††Ex-dividends ‡Also extras s-Stock Total Sales 3,687,100

Pittsburgh Stock Exchange

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended Nov. 2 Sales	First	High	Low	Last	Change
....	....	4	2½	N.P.	Ark. Nat. Gas (new)	17,947	3⅞	3⅞	3	3½	— ⅜
....	....	7⅛	6¾	N.P.	do pfd	9,931	7⅜	7½	7⅛	7½	+ ¼
98⅜	80⅛	120¼	90¾	100	Colombia Gas	.....	.....	.....	.....	.....	.....
107⅛	100	124	107	100	do pfd	.....	.....	.....	.....	.....	.....
15	7⅛	10	6⅞	10	Devonian Oil	370	8	8⅜	8	8⅜	— ⅛
....	....	15	9	10	Dixie Gas & Util.	.....	.....	.....	.....	.....	.....
....	....	95	75	100	do pfd	.....	.....	.....	.....	.....	.....
117⅛	115	116	115	100	Duquesne Light pfd.	.....	.....	.....	.....	.....	.....
....	....	85	80⅛	100	Fayette County Gas	.....	.....	.....	.....	.....	.....
12¼	6	22	12	N.P.	Houston Gulf Gas	100	16	16	16	16	+ ¾
59¼	37¼	59⅝	48⅝	$ 25	Lone Star Gas	7,455	57	*59⅝	57	59	+ 1⅜
....	....	38	35	25	Petroleum Exploration	.....	.....	.....	.....	.....	.....
....	....	.50	.50	....	Phoenix Oil pfd.	.....	.....	.....	.....	.....	.....
3⅛	3	4	3	5	Pittsburgh Oil & Gas	150	3	3	3	3	— ¼
8	5⅛	7¼	5¾	10	Salt Creek Cons.	50	5¾	5¾	†5¾	5¾	+ ¼
26⅛	17	22	16¾	10	Tidal Osage	.....	.....	.....	.....	.....	.....
43	33	33⅜	30½	N.P.	Waverly Oil Wks. A	25	32	32	32	32	0
....	....	19	17	$ 25	Wiser Oil	.....	.....	.....	.....	.....	.....

*New high record †New low.

Pittsburgh Curb Exchange

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended Nov. 2 Sales	First	High	Low	Last	Change
....	....	....	....	....	Ark. Gas (old)	.....	.....	.....	.....	.....	.....
95	88	132	120	25	Gulf Oil	.....	.....	.....	.....	.....	.....
....	....	115	115	....	Houston Gulf Gas pfd.	.....	.....	.....	.....	.....	.....
10¾	5⅛	9	4¾	25	Leonard Oil & Dev.	13,300	5	5½	†4¾	5½	— ½
2¼	1¾	....	....	5	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
31	19	27	16¾	5	Plymouth Oil	8,371	26	26¾	25	25¼	— 1
6	5	4¾	4	5	States Oil	.....	.....	.....	.....	.....	.....
3⅛	1⅛	4½	2¼	1	Texon Oil & Land	1,000	3¾	3¾	3¾	3¾	— ¼
23¾	18	18	15	10	Tidal Osage Non-vgt.	.....	.....	.....	.....	.....	.....

*New High †New Low x Ex Dividend

Cleveland Stock Market

Nov. 2	Par Value	Bid	Asked
Canfield	100	165	175
do pfd	100	102	....
Fred G. Clark	10	6½	7
National Refining	25	x35½	36½
do pfd	100	130½	134
Paragon Refining Co.	25	17½	18
do pfd	N.P.	42	44
do ctf. of deposit	....	....	18

x Ex dividend.

Sinclair Consolidated Oil Corp.—Arthur W. Cutten, Chicago stock market operator, was elected to board of directors to fill vacancy of P. W. Thirtle, controller, who was elected a vice-president. Mr. Cutten is quoted by the Wall Street Journal as saying, "The future of the oil stocks looks particularly bright. They have done nothing for eight years. Sinclair has a book value of $60 a share. It is making money and will begin paying dividends within a year."

Venezuelan Oil Concessions, Ltd.—Production in week ended Oct. 27 was 119,225 barrels daily average.

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For Sale

Call for Bids to Purchase Government Royalty Oil from Salt Creek field, Wyoming. The Secretary of the Interior invites sealed bids to be submitted at his office, Interior Department Building, Washington, D. C., on or before noon of December 10, 1928, for the royalty oil accruing to the United States from leases on Government land within the Salt Creek oil field in the State of Wyoming, for a period of three (3) years beginning January 1, 1929. For the calendar year 1927 the total Government royalty oil from the Salt Creek field amounted to approximately 1,920,000 barrels, and for the period from January 1 to August 31, 1928, to approximately 1,280,000 barrels, the average gravity in both years being in the range from 36.0 to 36.9 degrees A. P. I.

Bids must be based upon the highest posted field price for oil of like gravity in Oklahoma and Kansas, and or in Wyoming, whichever is the higher, and must be stated as a differential in cents per barrel from such posted price. Delivery of royalty oil will be made on each leasehold for the account of the successful bidder. Payments for the royalty oil are to be made to the Register of the United States Land Office at Cheyenne, Wyoming, on or before the fifteenth (15th) day of each month following that in which delivery is made and shall be computed on the basis of tank measurement with two (2) per cent strapping in terms of standard barrels at sixty (60) degrees Fahrenheit.

The successful bidder will be required to furnish a corporate surety bond in the sum of $250,000 conditioned upon full and complete compliance with the terms of the contract.

The Secretary of the Interior may accept any bid which in his judgment is most advantageous to the Government, and reserves the right to reject any or all bids.

Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelope to be marked plainly, "Bid on Salt Creek royalty oil." No bid received after the time herein fixed for submitting bids will be considered.

Additional information can be obtained from the Geological Survey, Department of the Interior, Washington, D. C., or from the field offices of the Geological Survey at Casper, Wyoming. ROY O. WEST, Secretary of the Interior.

Miscellaneous

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Copy must reach us not later than Friday preceding date of issue.

All advertisements carried on this page are payable in advance.

Standard Oil Stocks on New York Curb

1927 High	1927 Low	1928 High	1928 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Nov. 3 Sales	First	High	Low	Last	Change
21⅜	17⅞	22⅜	17	£ 4,126,460	£ 1	Anglo-American Oil	24.4c	June 6, 28	6,000	18⅞	19⅛	18⅜	18⅝	— ⅛
21½	17⅝	20½	16⅜	.....	£ 1	do cts. non-voting	.....	.....	500	18½	18⅜	18⅜	18¾	+ ⅜
3¾	⅞	5	1¼	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	2,700	3⅜	3⅜	2⅜	2⅞	— ⅛
6½	2½	9¼	3¼	$ 10,000,000	$ 50	do pfd	.....	.....	800	4	6⅝	3⅝	6½	— ¼
69	50	56	44½	1,000,000	25	Borne Scrymser	‡$1S.A.	Oct. 15, 28	.....	.....	.....	.....	.....	.....
60	45	76	58	10,000,000	50	Buckeye Pipe Line	‡$1Q	Sept. 15, 28	500	67⅝	67¾	66¼	66¼	+ ¼
126	76½	161	117¼	3,000,000	25	Chesebrough Mfg	‡1Q	Sept. 29 28	.....	.....	.....	.....	.....	.....
22⅝	16¼	23	16	36,123,350	10	Continental Oil	.....	Dec. 15, 27	11,900	17⅞	18⅜	17⅝	18⅜	+ ⅜
137	89	114	82	1,500,000	50	Cumberland Pipe Line	$15	Sept. 15, 28	50	82	82	†82	82	—13
68½	47	88	64½	5,000,000	100	Eureka Pipe Line	$1Q	Nov. 1, 28	.....	.....	.....	.....	.....	.....
13½	3½	13	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	800	7¾	9	7¾	8¾	+ 1⅛
59¾	23	87¾	27	4,000,000	100	do new pfd	.....	June 30, 26	.....	.....	.....	.....	.....	.....
60½	35½	89¼	35	2,000,000	100	do old pfd	.....	June 30, 26	100	78	78	78	78	— 2
68½	54	90½	60	73,685,700	25	Humble Oil & Refining	‡30cQ	Oct. 1, 28	39,900	86	*90½	83⅜	90⅛	+ 4⅞
182	123¾	264	176½	20,000,000	100	Illinois Pipe Line	$6S.A.	June 15, 28	7,250	225	*264	225	260	+37¾
64¾	37¾	95½	56¾	(sh) 6,591,458	N.P.	Imperial of Canada	‡25cQ	Sept. 1, 28	21,800	84⅛	*95⅛	84	95	+11¼
94½	61	91⅞	74⅞	$ 5,000,000	$ 50	Indiana Pipe Line	‡$1Q	Aug. 15, 28	300	82	83¾	82	83	— 1⅜
39	28¼	51	35	(sh) 7,123,544	N.P.	International Petroleum	25c	June 30, 28	108,000	44	*51	44	49¾	+ 5½
24	13¾	32⅜	19¾	6,363,350	12.50	National Transit Co	‡25cQ	Sept. 15, 28	900	23¾	23¾	23	23	— ½
44½	31¾	75	37½	5,000,000	100	New York Transit	.....	July 15, 26	100	74	74	74	74	— 1
100	70	125	56½	2,000,000	50	Northern Pipe Line	(a)$3S.A.	July 2, 28	100	62	62	61¾	61¾	— 1¼
67⅛	52	68¼	58	60,000,000	25	Ohio Oil Co	50cQ	Sept. 15, 28	3,100	63½	64½	63⅜	64½	+ 1
39	12	84	28	10,000,000	25	Penn Mex. Fuel	$1.25	May 31, 28	300	39	39	38½	38½	— ½
55⅜	45⅜	56	46	60,479,000	25	Prairie Oil & Gas	.....	Aug. 31, 27	18,600	53¾	54⅞	52⅝	54⅛	+ 1⅜
190	132	236	172	81,000,000	100	Prairie Pipe Line	$3.50Q	Oct. 31, 28	12,100	208	*236	208	218	+10
201½	175½	205	167	4,000,000	100	Solar Refining	$5S.A.	June 20, 28	400	194	*205	194	205	+35½
27¾	15½	35⅛	12	1,000,000	10	Southern Pipe Line	$2	Dec. 1, 27	700	15	16	15	16	+ 1½
41½	35	81½	36¾	20,000,000	25	South Penn Oil	‡50cQ	Sept. 29, 28	150	65⅝	*81½	81	81¼	+ 1½
83	55½	100¾	70	3,500,000	100	South West Pa. Pipe Lines	$1Q	Oct. 1, 28	.....	.....	.....	.....	.....	.....
81½	64¾	83¾	70⅞	230,788,513	25	S. O. Indiana	‡62½cQ	Sept. 15, 28	42,700	80¾	81⅞	79¼	80⅜	— ⅞
20⅞	14⅜	27¼	15	8,000,000	25	S. O. Kansas	.....	June 16, 24	3,400	21¾	22½	21¼	22¼	+ ½
130	111½	157⅝	122¼	17,103,011	25	S. O. Kentucky	$1Q	Sept. 29, 28	17,300	154⅞	*157⅝	151¼	156⅜	+ 3⅜
49½	40	49⅜	39⅜	4,601,100	25	S. O. Nebraska	63cQ	Sept. 20, 28	500	46	47	46	46⅞	+ 2⅝
87½	72	95	71	14,000,000	25	S. O. Ohio	62½cQ	Oct. 1, 28	1,300	94	95	93	94½	+ 1½
122	117¼	125	116	7,000,000	100	do pfd	$1.75Q	Sept. 1, 28	.....	.....	.....	.....	.....	.....
21	14½	26	16	861,466	25	Swan Finch Co	30c	June 30, 28	.....	.....	.....	.....	.....	.....
.....	.....	87⅛	72	126,154,100	25	Vacuum Oil	75cQ	Sept. 20, 28	23,800	82	85½	82	85	+ 3⅛

•New high †New low xEx dividend ‡Also extras. (a)$50 Special Sept. 1, 1928

Independent Oils on New York Curb

1927 High	1927 Low	1928 High	1928 Low	Par Value	Stocks	Transactions Week Ended Nov. 3 Sales	First	High	Low	Last	Change
2⅛	.55	1⅛	.65	$ 5	Amer. Con. Oilfields	22,500	76	89	76	78	—10
7½	2¾	6¾	3¼	N.P.	Amer. Maracaibo	4,400	4⅞	5	4⅝	5	+ ⅛
2¾	1	4¼	2¼	$ 10	Argo Oil	.....	.....	.....	.....	.....	.....
9¾	6¾	10¼	7¾	10	Arkansas Nat. Gas	88,000	19¾	20¾	18⅛	19⅞	+ 1⅝
.....	.....	21	3½	....	Barnsdall deb. war	1,400	47½	*50	47½	50	+ 2
40	20½	50	32¾	N.P.	British American	39,800	16	20¾	16	17⅝	+ 1⅞
28¼	15½	23⅞	12½	25c	Carib Syndicate N	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....	.....	do ctfs. of dep	20,800	70½	71½	70¼	71½	+ 1
58¾	40¼	72¼	54	$ 20	Cities Service	800	99⅝	99⅞	99½	99¾	— ⅛
95⅛	87	103½	94½	100	do pfd	100	9¼	9¼	9¼	9¼	0
8¾	7⅜	9⅝	8¼	10	do pfd. B	.....	.....	.....	.....	.....	.....
29¼	22½	94	28¾	10	do banker's shares	4,100	1 1/16	1¼	1	1	— 1/16
3⅜	1⅜	2¼	1	1	Colombia Syndicate	300	6½	6½	6½	6½	— ⅛
9¾	6¾	15⅜	6¾	10	Consolidated Royal	9,200	13	13	12⅛	12⅛	— ¾
14⅜	9½	17½	10	N.P.	Creole Syndicate	1,000	1¼	1¼	1¼	1¼	— ⅛
3	.50	3¼	.76	N.P.	Crown Central	10,200	30⅜	31	28½	28½	— 2
12	4	33¾	8½	N.P.	Darby Petroleum	.....	.....	.....	.....	.....	.....
11⅜	4	13½	7⅞	.....	do trust ctfs	1,200	2⅜	2⅞	2⅜	2½	+ 5/8
2½	.74	22	1	N.P.	Derby Oil & Refining	7,600	18⅛	*21	18	21	+ 3
16¾	4	21	7½	N.P.	do pfd	.....	.....	.....	.....	.....	.....
3¾	1	2	1	N.P.	Gibson Oil	.....	.....	.....	.....	.....	.....
2	.40	.53	.15	N.P.	Gilliland ctfs	17,800	136	138½	133⅞	136	+ 1
118	86¼	148½	101⅜	$ 25	Gulf Oil Corp	12,800	1⅞	2	1¾	1⅞	— 1/8
2½	.80	7⅞	1	10	Intercontinent Pet	3,800	2⅜	2⅝	2	2½	— ⅛
2¼	1⅜	3	1¼	N.P.	Kirby Petroleum	5,200	5¾	5¾	5¼	5½	— ¼
10¼	5⅛	9¼	5⅛	N.P.	Leonard Oil & Dev	18,800	40	40⅛	35½	37⅝	— 2⅜
27½	20	43⅜	20	N.P.	Lion Oil & Refg	6,800	58	59¾	56	57	— ½
59¾	37	59⅜	48⅜	$ 25	Lone Star Gas	13,000	75	80	65	66	— 1
2¼	.80	1⅞	.54	1	Magdalena Synd	.....	.....	.....	.....	.....	.....
21⅜	20⅞	22⅜	22⅜	N.P.	Manhattan Oil	100	36	36	36	36	+ 1½
52	12	45	34½	N.P.	Margay Oil	.....	.....	.....	.....	.....	.....
3	1⅜	40⅜	40¼	$ 10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
12⅜	5	8	3¾	N.P.	Mexico-Ohio Oil	7,000	1¼	1⅜	1	1⅛	0
1½	1	1⅞	.76	$ 1	Mountain & Gulf	7,200	21⅞	22	21½	21⅞	— ⅛
29¼	22¾	28⅝	19½	10	Mountain Producers	1,900	4½	4⅞	4½	4½	— ⅛
5⅛	4⅝	5⅝	4¼	5	New Bradford	.....	.....	.....	.....	.....	.....
6¾	4	5⅛	3	10	New England Fuel	.....	.....	.....	.....	.....	.....
16	9¾	11¾	7⅛	1	New Mex. & Ariz	200	7⅝	7¾	7⅝	7¾	0
13⅞	9	15½	11⅛	25	New York Oil	.....	.....	.....	.....	.....	.....
.....	.....	40	39⅛	....	North Amer. Oil Cons	.....	.....	.....	.....	.....	.....
12¾	9⅛	13¼	10⅝	N.P.	North Cent. Texas	600	10¾	10¾	10⅜	10¾	0
23⅞	21¼	.....	.....	.....	Okla. Nat. Gas ctfs	.....	.....	.....	.....	.....	.....
9⅛	3¾	6	2¼	N.P.	Pandem	1,600	2½	2⅝	2¼	2⅜	— ⅛
12⅜	7	15⅜	8⅛	N.P.	Panapec Oil	8,500	12	12⅛	11½	12	0
9	7⅜	20	10⅝	$ 25	Paragon Refg	.....	.....	.....	.....	.....	.....
.37	.25	9	4	N.P.	Peer Oil Corp	.....	.....	.....	.....	.....	.....
13⅜	5⅜	7⅜	4⅞	10	Pennok Oil	100	5¼	5¼	5¼	5¼	— ¼
.....	.....	4½	3⅛	5	Pittsburgh Oil & Gas	.....	.....	.....	.....	.....	.....
24⅜	7	14½	8	25	Red Bank Oil	.....	.....	.....	.....	.....	.....
15½	3⅜	13	4⅛	N.P.	Reiter-Foster	400	9	9	8¼	8⅝	— ⅜
28¾	15	31⅜	18	$ 25	Richfield Oil pfd	.....	.....	.....	.....	.....	.....
.....	.....	23	7⅜	....	do warrants	.....	.....	.....	.....	.....	.....
7	4⅛	9⅞	4⅝	N.P.	Ryan Consolidated	700	6¼	6⅜	6	6⅜	+ ⅜
8	5¼	7¼	5⅝	$ 10	Salt Creek Cons	200	5⅞	5⅞	5⅞	5⅞	+ ⅛
35⅛	27¾	35	23¼	10	Salt Creek Prod	5,300	24⅛	24¼	23¾	24¼	— ⅛
7	1¾	3⅜	1	5	Savoy Oil	.....	.....	.....	.....	.....	.....
.....	.....	4⅝	3	1	Texon Oil & Land	29,000	3 1/16	4	3⅜	3⅜	— ⅜
26½	17	22⅞	13	10	Tidal Osage	700	16⅜	16⅞	16⅛	16⅛	— ⅜
23¾	15	21¾	13⅜	10	do non-voting	500	16	16	15⅜	15⅞	+ ⅛
92	63½	87	75	100	Transcontinental pfd	400	82¾	85	82½	85	+ 4
23¼	7	53⅛	18	10	Venezuela-Mexico	.....	.....	.....	.....	.....	.....
7¾	4⅛	8⅞	4⅜	5	Venezuelan Petrol	52,800	8⅜	8⅜	7⅞	7¾	— ⅛
32¾	19½	25	15¼	N.P.	Wilcox Oil & Gas	.....	.....	.....	.....	.....	.....
8	4⅜	8¼	4⅜	$ 1	Woodley Petroleum	500	5⅛	5⅛	5⅛	5⅛	+ ⅛
6	1¾	8⅜	2⅜	25	Y Oil & Gas (new)	400	4⅜	4¾	4⅜	4⅜	— ⅛

•New High †New Low xEx Dividend

New York Bonds

Week Ending Nov. 2

	High	Low	Last	Ch'ge
Assoc. Oil Gold 6s	102¾	102¾	102¾	0
Atlantic Refg. deb. 5s	101¾	101⅜	101⅜	— ⅜
Barnsdall Corp. 6s	137	132	136¼	+6¼
Barnsdall Corp. 8s ex-war	98	94½	97½	+3
Cal. Pet. 5s	101¼	100½	101	+ ⅜
Cal. Pet. 5½s	104	103½	103⅝	0
General Asphalt 6s	108¼	107½	108¼	— ⅜
General Pet. 5s	101	100¾	101	0
Humble Oil & Refg. 5s	100½	100	100⅛	— ⅛
Mid. Cont. Pet. 6½s	105¼	105	105	— ⅛
Pan Amer. P & T 7s	104⅝	104½	104⅝	0
Pan Amer. P & T 6s	105¼	104½	105¼	+ ¾
Pan Amer. P & T 6s	97	96¼	97	+1½
Prod. & Refg. 8s	110¾	110¾	110¾	0
Pure Oil 5½s	100	99⅝	99⅞	0
Shell Union Oil 5s	98¾	98	98¾	+ ⅜
Simms Pet. 6s	101¾	99¾	99¾	—2⅜
Sinclair Con. Oil 7s	103	102½	103	+ ⅛
Sinclair Con. Oil 6½s	101½	100½	101⅜	— ⅜
Sinclair Con. Oil 6s D	99⅜	99	99⅛	— ⅛
Sinclair Crude Oil 5½s	97⅞	97½	97½	— ⅜
Sinclair Pipeline	95¾	94¼	95½	+1
Skelly Oil 5½s	95½	93½	95½	+2
S. O. N. Y. 4½s	96⅞	96½	96⅜	— ⅛
S. O. N. J. 5½s	103¼	102¾	102¾	— ⅛
White Eagle Oil 5½s	101¼	100	100	—1¼

New York Curb Bonds

Week Ending Nov. 2

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	112½	110⅜	110½	+ ¼
Cities Serv. 5s '66	93¾	97½	93¾	0
Cities Serv. G. 5½s '42	93⅝	93⅜	93½	0
Empire O & R 5½s '42	93	92¼	93¼	+1
Galena Oil 7s '30	100¾	100⅝	100⅝	0
Gulf Oil 5s '37	100⅝	100¼	100⅜	+ ⅛
Gulf Oil 5s '47	101	100½	100⅜	+ ⅛
Indep. Oil 6s '39	109	106¼	108½	+1½
Sun Oil 5½s '39	101½	101	101½	0
Warner Quinlan 6s '42	117⅛	111¼	113⅛	+2⅜

Oil Dividends

	Amount	Stock of Record Payable	
Buckeye Pipe Line q	$1	Dec. 15	Nov. 16
Illinois Pipe Line s.a	$10	Dec. 15	Nov. 15
Ohio Oil q	50c	Dec. 15	Nov. 17
Pure Oil q	25c	Dec. 1	Nov. 10
Sun Oil q	25c	Dec. 15	Nov. 26
do stock	6%	Dec. 15	Nov. 26

ADVERTISERS INDEX

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American La France & Foamite Corp.
American Machine & Foundry Co.
American Oil Co.
American Oil Pump & Tank Co. 16
American Oil Works Co. 93
American Radiator Co. 57
American Schaeffer & Budenberg Corp.
American Telephone and Telegraph Co. 38
Andrews-Bradshaw Co.
Arrow Oil Co. 91
Associated Business Papers, Inc. 7
Automobile Rotary Lift Co. 137

Badger & Sons Company, E. B. 60
Barnsdall Refineries, Inc.
Barroll & Co., Henry F.
Battenfeld Grease & Oil Co. 10
Bennett Pumps Corp. 8-9
Berry's Jas. B. Sons, Inc.
Bessemer Gas Engine Co. 55
Bethlehem Steel Co.
Bigge Boiler Works Co.
Binks Spray Equipment Co.
Birmingham Tank Co.
Blackmer Pump Co.
Blaw-Knox Co. 73
Boe Mfg. Co.
owser & Co., Inc., S. F. 14
raun & Co., C. F. 66
Brown Instrument Co.
Brown Sheet Iron & Steel Co. 88
Buckeye Boiler Co. 129
Buckeye Iron & Brass Works
Buckeye Traction Ditcher Co.
Budd Wheel Co.
Buffalo Meter Co. 58
Butler Mfg. Co. 104

Campbell, J. A. 59
Canfield Oil Co., Cleveland 110-111
Carbondale Machine Co.
Celite Products Co.
Champion Pneumatic Mach. Co.
Champlin Refining Co. 103
Chestnut & Smith Corp.
Chevrolet Motor Co.
Cincinnati Advertising Products Co.
Classified Advertising 141
Clear Vision Pump Co.
Columbian Steel Tank Co. 114
Combustion Engineering Corp. 5
Continental Rubber Works
Continental Supply Co.
Cooper Co., C. & G.
Correct Measure Co.
Crouse-Hinds Co.
Crown Central Petroleum Corp.
Curtis Pneumatic Machinery Co. 11
Cushing Refg. & Gasoline Co.

Daugherty & Son Refg. Co., W. H. 117
Davis & Gant Mfg. Co., The
Davis Welding & Mfg. Co. Third Cover
Dayton Air Compressors 76
Dayton Pump & Mfg. Co.
Deepwater Oil Refineries
Derby Oil & Refg. Corp.
Des Moines Foundry & Machine Co.
Diebold Safe and Lock Co.
Draper Mfg. Co.
Dyestuffs & Chemicals, Inc.

Edwards Mfg. Co. 97
Ellis & Sons, Inc., George D.
Emerson-Scheuring Tank Co.
Empire Oil Works, Inc.
Empire Oil & Refining Co.
Erie Meter Systems, Inc.
Ethyl Gasoline Corp.

Fairbanks Morse & Co.
Farrell Mfg. Co.
Federal Motor Truck Co.
Fisk Tire Co., The

Fiske Bros. Refg. Co. 88
Flexlume Corp. 75
Foster-Wheeler Corp.
Foxboro Co., Inc.
Franklin Creek Refg. Co. 117
Freedom Oil Works 132
Frontier Mfg. Co. 81
Fry Equipment Corp.

General Porcelain Enameling & Mfg. Co.
Gilbert & Barker Mfg. Co.
Globe Machinery & Supply Co. 68
Globe Mfg. Co. 78
Globe Oil & Refg. Co.
Goodrich Rubber Co., B. F.
Gott Mfg. Co., H. P.
Graham Brothers 13
Granberg Meter Corp.
Graver Corp. 1
Gray Processes Corp.
Griscom-Russell Co.
Gulf Ref. Co. 137
Gustafson Bros. Oil Co.

Halliburton Oil Well Cementing Co. 59
Haynes Stellite Co.
Heil Co., The
Heine Boiler Co. 5
Highland Body Mfg. Co. 80
Holmes, Ernest
Hope Engineering & Supply Co.
Hughes Tool Co. 50
Humble Oil & Refining Co.
Huntley & Huntley

Illinois Glass Co.
Imperial Refg. Co. 122
Independent Oil & Gas Co.
Independent Oil Men of America
Industrial Alcohol Institute, Inc.
International Combustion Eng. Corp. 5
International Derrick & Equipment Co.
International Harvester Co.

Jenkins Bros. 73

Kanotex Ref. Co. 82
Kellogg Co., M. W. 117
Kellogg Mfg. Co.
King-Seeley Corp.
Korect Air Meter Corp.

Ladd Water Tube Boiler Co. 5
Leader Iron Works 74
Lientz & Co., B. P.
Linde Air Products Co.
Luce Trunk Co. 68

Manning, Maxwell & Moore, Inc.
Marland Refg. Co.
Mars Company
Martin & Schwartz, Inc.
McDonald Mfg. Co., A. Y. 94
McKee & Co., Arthur G.
Melrath Supply & Gasket Co.
Merco Nordstrom Valve Co.
Merit Equipment Corp.
Metal Hose & Tubing Co. 15
Metric Metal Works
Meyercord Co. 79
Mid-Continent Petroleum Corp.
Miller Sons Co., A. D.
Milwaukee Tank Works 98-129
Murdock Pump Co.

National Carbon Co., Inc. 89
National Petroleum News 12-106
National Recording Pump Co. Second Cover
National Refining Co. 74
National Steel Barrel Co. 112
National Transit Pump & Machine Co. 63
National Tube Co. 53
Natural Gas Equipment Co. 58
Naturaline Company of America 99
Nicholas, L. V. 127
Niles Steel Products Co.
North American Car Corp.
Northern Pump Co. 97

Oakite Products, Inc. 137
Ohio Steel Foundry Co.
Ohmer Fare Register Co. 77
Oil Conservation Engineering Co. 64
Oil Products Appliance Co.
Oil Well Supply Co. 49
Oliver United Filters, Inc. 65
Oxweld Acetylene Co.

Parkersburg Rig & Reel Co.
Pennsylvania Pump Co.
Perfection Mfg. Co.
Petroleum Iron Works Co.
Pforzheimer & Co., Carl H.
Phillips Petroleum Co.
Pittsburgh-Des Moines Steel Co.
Pittsburgh Equitable Meter Co.
Platt Co., W. C. 114
Pressed Steel Tank Co. 135
Prest-O-Lite Co.
Producers & Refiners Corp. 101
Pure Oil Co. Fourth Cover
Pusey & Jones Corp.
Pyrene Mfg. Co.

Quincy Compressor Co.

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Reo Motor Car Co.
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St. Louis Sticker Co.
Sall Bros. Co.
Service Station Equip. Co. 2
Seymour-Howard Corp.
Shaffer Oil & Refg. Co.
Sharpsville Boiler Works Co. 4
Shotwell Pump & Tank Co.
Shreveport Producing & Refg. Co. 6
Simms Oil Co.
Sinclair Refining Co. 120
Sistersville Tank & Boiler Works
Skelly Oil Co. 125
Sonneborn Sons, Inc., L. 117
Southwestern Engineering Corp. 65
Southwest Pump Co.
Standard Boiler & Plate Iron Co.
Standard Garment Co.
Standard Lift Co. 87
Standard Steel Works
Steel Drum Accessories Corp.
Sun Oil Company
Sun Shipbuilding & Dry Dock Co.
Superior Oil Works

Tagliabue Mfg. Co., C. J.
Taylor Instrument Companies
Texas-Mexican Oil & Refg. Co.
Texas Pacific Coal & Oil Co.
Tokheim Oil Tank & Pump Co. 103
Transcontinental Oil Co.

Union Metal Mfg. Co.
United Supply Co.
U. S. Air Compressor Co.
U. S. Industrial Alcohol Co.
Universal Oil Products Co. 71

Vacuum Oil Co.
Viking Pump Co. 80-105
Vilter Mfg. Co.
Viscosity Oil Co. 130
Vogt Machine Co., Henry 69
Volcker Mfg. Co.

Wadhams Oil Co.
Walworth Co. 3
Waverly Oil Works Co.
Wayne Co.
Westcott & Greis, Inc.
Wheaton Brass Works, A. W. 43
Wheeling Steel Corp.
Willock Oil Corp.
Wilson & Bennett Mfg. Co.
Winkler-Koch Eng. Co.

York Safe & Lock Co.
Youngstown Boiler & Tank Co. 79

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Table of Contents

The Week's News

Page

Piling Up of Gasoline Stocks Is Seen Unless Refiners Reduce Runs—*By J. C. Chatfield* 17
Oil Marketing Code to be Presented at A. P. I. Annual Meeting 19
Vapor Pressure Tests to be Discussed at Los Angeles 21
Review of Late Production News 22
An Interview with Dan J. Moran 23
Refining in Transit Privilege Refused Wood River Plants 24
O'Donohoe, Laney Re-elected by Texas Producers 25
$100 Station License Fee Killed in Blue Island—*By Ward K. Halbert* 26
Advance Early Hotel Reservations Urged for I. O. M. A. Meeting 28
Misener Sand "Play" Given Impetus by Amerada Well in 8-8-5—*By John Power* 39
Mid-Continent Completions 44-48
All Petroleum Exporters to be Invited into Foreign Trade Association—*By Roger B. Stafford* 102
NATIONAL PETROLEUM NEWS' Weekly Western Refinery Figures 113-118
Daily Average Crude Production and Imports 119

Merchandising

Testing Leads to Complete Brake Service in Indiana Station—*By Ward K. Halbert* 29
Making Employees Feel at Home at Get-togethers 86
Oil Company Builds Burner for Sale by Oil Companies 86
The Woman Tourist's Answer to the Question of the Pay Lock Toilet—*By Beatrice Barrett* 90
Why Collect a Road Tax from Flyers? 96

Engineering

Restoring Pressure in Old Texas Field Flows Well Regularly—*By Lawrence E. Smith* 27
Field School Teaches How to Mix Concrete for Greatest Durability—*By John Power* 32
Accounting for Production, Article 2—*By Lester C. Uren* 51
Compressor Plant Meets Gas Lift Needs and Makes Gasoline at Low Cost—*By J. C. Chatfield* 61
Variable Compressor Engine Charts Knock Intensity of Motor Fuel—*By J. C. Chatfield* 83

Departments

The Editors' Viewpoint 34, 35
The Mid-Continent Skyline 36
Our Industry 67, 68
Visiting Around the Refineries 70
Selected Bibliography on Petroleum 74, 75
New Patents 79
New Stations Building 88
Along the Air Lanes 92
On the Lazy Bench 108
Oil Company Finance 138-142

Markets

Refinery Price Tables 124, 126
Complete Seaboard Prices 131
Tank Wagon Price Tables 133
Crude Oil Prices, All Fields 134, 136